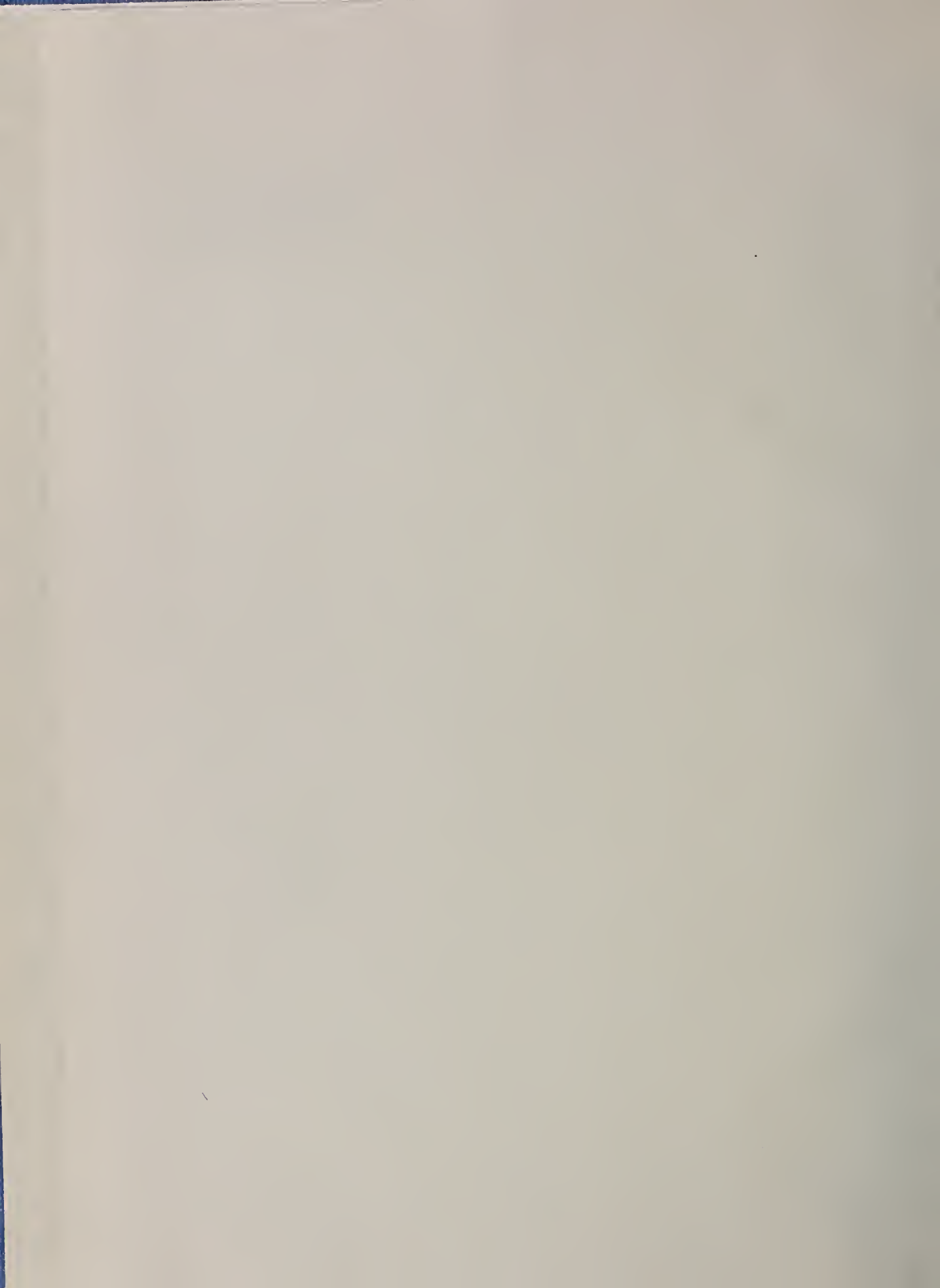
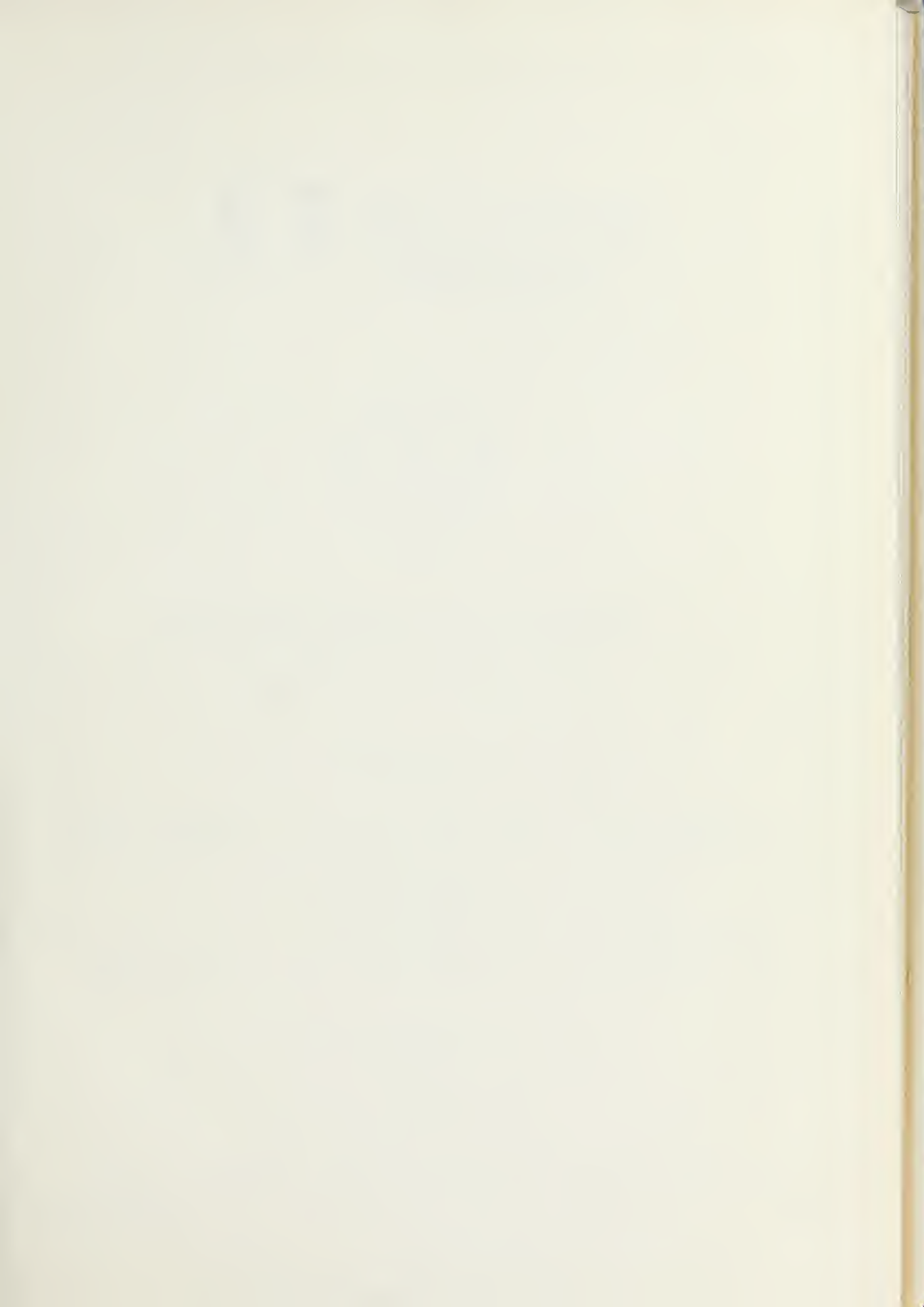


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EXTERNAL LOCALIZATION OF INTRACRANIAL LESIONS

- A historical review of brain scanning with an appraisal of its present-day techniques, future possibilities and the search for more specific isotopes.

ROBERT L. MECKELNBURG, M.D.

The external localization of intracranial lesions by a safe, accurate means has long been sought. At the present time, this search has culminated in the use of scintillation detectors to locate intracranial areas of increased radio-isotope concentrations. Specifically, the localization of brain tumors by their preferential uptake of isotopically labeled carriers was begun in 1947 when Moore reported the uptake of sodium fluorescein by cerebral neoplasms.¹ The following year he labeled the same compound with radio-active iodine and reported an overall detection of 88% in the first reported series of twelve brain tumor suspects.² Thus brain scanning was given its start. Since the original clinical studies done with simple Geiger-Muller tubes and single bore collimators, refinements in equipment have progressed to such complicated apparatus as the positron scintillation camera which is capable of scanning the brain in less than ten minutes and at preselected levels of depth by simple electronic manipulation.³

The availability of equipment and material has made brain scanning feasible for all but

the smallest community hospitals. Generally, three main types of scanning equipment are utilized. One is the gamma ray detector which contains a single crystal behind a focusing collimator. This moves back and forth over the organ to be scanned, detecting differences in the count rates coming from parts of that organ. The coincidence counter utilizes two opposing detectors positioned at 180 degrees, scanning both sides of an organ and registering only coincident or annihilation photons. The third instrument is the gamma camera which does not move but has a large scintillation crystal capable of detecting isotope disintegrations from all or the major part of an organ. As opposed to scanning, this "still" detector can accumulate the necessary data very quickly and markedly shorten the procedure time.

An intriguing variation of the rectilinear scanner is the dual detector system mounted on a yoke and cantilever, of Kuhl and Associates at the University of Pennsylvania. This instrument, capable of rotating around the patient in many planes, can make transverse section scans through a portion of the body to separate images that would be overlapping in conventional rectilinear scans.⁴

From the Department of Isotopes and Endocrinology, Memorial Hospital, Wilmington, Dr. Meckelnburg is on the active staff of the Hospital.

Major Drawbacks

A major drawback of the present day method of localizing intracerebral lesions is the low tumor to brain ratio achieved with the currently used tagged compounds. Another difficulty is the low total activity in the brain. These factors demand a statistical variation that is less than 10% to assure accuracy in any count rate increase from a tumor.⁵ In comparison with pneumography and arteriography, isotope scanning has the decided advantage of directly seeing the tumor or lesion in its anatomical location. The former two studies rely upon massive shifts of air and vessels or the presence of abnormal vasculature within or at the circumference of a lesion for its detection. Other mechanical factors such as edema and hemorrhage can produce changes in the arteriogram and pneumogram not directly related to the tumor. Of course when there is no abnormal vasculature connected with the tumor, it won't be seen. Such secondary factors are difficult to interpret and can result in problems as the incorrect placement of a bone flap at surgery. An outstanding advantage of brain scanning is the lack of patient risk and the minimal discomfort associated with the procedure. It is ideally suited to outpatient practice and is a convenient means of following chemical and radiation therapy without recourse to repeated angiography or air studies. With improvements such as the scintillation camera, dynamic studies on vascular lesions will also be simplified. It still deserves emphasis, however, that brain scanning is intended as a screening procedure and though several investigators have relied upon it as a definitive study prior to surgery, this is not as yet generally accepted.

With exquisite attention to detail, brain scanning can be utilized to delineate the intracranial anatomy. Gross structures such as the Sylvian fissure, the superior longitudinal sinus, the transverse sinuses and the Torcular can be demonstrated and anatomic localization provided for the operating surgeon.⁶

The quest for an isotope with better localizing properties has been unending. Many different materials have been used in the

past such as 8-Bromine, 131 Iodine, 32-Phosphorus, 24-Sodium, 42-Potassium, 64-Copper, 74-Arsenic, 65-Zinc, 131-I albumin, 131-I Tetracycline, 131-I Octoiodofluorescein, 131-I antibody to fibrin, 203-Mercury, 197-Mercury, and most recently 68-Gallium for use with the position scintillation camera.³⁻⁵ Technetium is probably the latest material to be utilized in high speed scanning of brain tumors. Its short half-life of 6 hours allows large doses of the material to be given and excellent counting rates are obtained.

Today, there is widespread use of the Positron emitters, 64-Copper and 74-Arsenic, and the Gamma emitters 131-I RISA, 203-Mercury and 197-Mercury for brain scanning, 131-I serum albumin was used prior to the mercuric isotopes for tumor localization and due to its eventual high tumor concentration, it was a satisfactory compound for scanning.⁷ However, it had definite disadvantages such as the requirement of waiting 24-48 hours after administering the drug so that the blood background would decrease appreciably below the tumor level. Also the higher energies of the radioactive iodine made collimation with the ordinary lead collimators less competent. 203-Mercury Neohydrin was found to concentrate in brain tumors to a lesser degree than radioiodinated albumin. However, the lower blood levels and shorter biologic half-life of the former material gave it a much better target to background ratio and, therefore, allowed more rapid and better visualization of intracranial neoplasms. Also, its single gamma emission of 280 KEV made it ideal for collimation. A comparison of 131-I RISA and 203-Mercury for brain scanning by Blau and Bender showed the target to non-target ratio to be increased 30% with 203-Mercury compared to 131-I and the blood clearance of 203-Mercury showed less than 10% remaining after five hours, where as 90% of the labeled RISA was present at the time. In their series, they considered that a quarter to one-third of the scans with Mercury gave more readable pictures and that five to ten percent of the cases were diagnosable only with 203-Mercury and could not be diagnosed from the albumin scans. Their pathological data likewise confirmed the higher



FIGURE 1

Normal anterior-posterior scan of brain. Uptake of radio active tracer in extracranial structures and musculature at base of skull delineate the lower margin of normal brain tissue that usually does not contain isotopes. Midline uptake within brain substance represents Normal vascular structures with circulating isotope.

FIGURE 2

Normal lateral scan of brain. Facial musculature and extra-cranial structures outline normal brain substance that doesn't take up the tracer. Dot at far right is at the nasion and dot in center is on the external auditory meatus.



FIGURE 3

Left lateral scan of patient with a heavy uptake of the tracer in area of Pituitary Fossa. Meningioma found at operation.



FIGURE 4

Posterior-anterior view of glioblastoma in left parietal area. Dense uptake in tumor is easily seen, where as uptake in extra-cranial structures is even less definite.

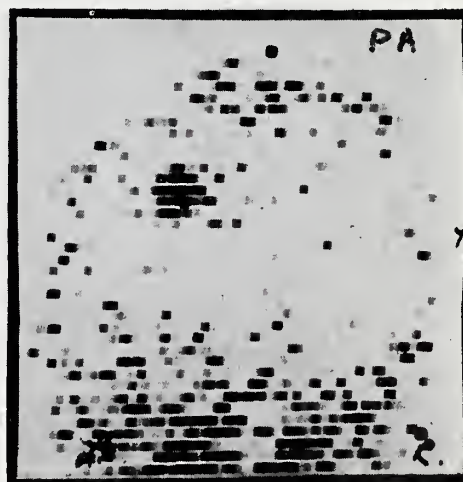
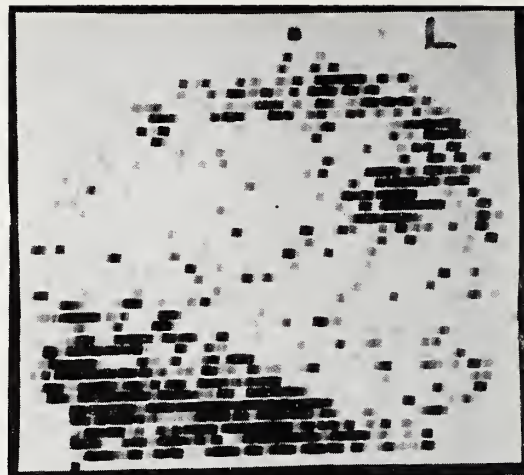


FIGURE 5

Left lateral view of same tumor seen in figure #4. Tumor uptake is seen in Posterior parietal area. Localizing value of the two views for planning therapy is evident.



vascular and extra-cortical-structure content of RISA as compared to Mercury following timed injections of each.⁸

197-Mercury has been found to have even more advantages for brain scanning over 203-Mercury. Its half-life of 2.7 days is shorter and its preponderant gamma emission of 0.077 mev makes it an even easier isotope to collimate. For the critical organ in the body, which in the case of Mercury is the kidney, the half-life of 203-Mercury is 18 days, whereas for 197-Mercury it is 1.16 days. The whole body radiation dose for 203-Mercury is .003 rads and for 197-Mercury 0.013 rads. The radiation exposure to the kidneys per 100 microcurie dose was 5 rads for 203-Mercury and 0.6 of a rad for 197-Mercury.⁹ A welcome improvement in the mercuric compounds is the known stability of 203-Mercury for up to 60 days.¹⁰ Positron scanning because of the nature of the emission of the energetic photon does not have to be encumbered by heavy focusing collimators. However, this system does suffer from inferior tumor to brain concentration ratios compared to Mercury and RISA because the positron emitters are not protein bound and, as will be discussed later, this is an important criteria for localization within cerebral neoplasms.

The exact role of the blood-brain barrier in allowing radioactive substances to be localized in brain tumors is yet to be defined. Several theories have been put forth to explain this physiologic phenomena. Matthews and Moli-

naro feel that it is either due to a lack of extra-cellular space and reduced cell permeability or that it is a physical barrier impermeable to extra-cellular substances but slowly permeable to intra-cellular substances.¹¹ Long et. al. feel the blood-brain barrier is a special selective permeability of the capillary endothelium and that this selectivity is lost in tumor areas. They feel that tumor localization is merely passive diffusion from the blood stream to the tumor bed through a breakdown in the so-called blood-brain barrier.¹² The ratio between normal and abnormal brain tissue is due principally to the low concentration of labeled substances in the normal tissue. The higher the degree of protein binding, the better tumor concentration of labeled substances. It appears that the degree of protein binding determines to a large extent the penetration of the blood-brain barrier.¹² Extra-cellular substances have been found to give the same tumor to brain concentration ratio due to the fact that extra-cellular substances equilibrate with extra-cellular spaces of both tumor and brain. Consequently, the tumor to brain ratio is approximately the ratio of these spaces of 15:1. For intracellular substances, the tumor concentration is approximately constant. The ratio here depends upon the brain concentration and hence on the blood concentration and substances that are rapidly cleared from the blood, therefore, give the best ratio. For intracellular substances, brain has a small and more slowly equilibrating space than tumor. In the tumor, the uptake is usually rapid and does

not depend on the blood concentration but on the amount of the substance reaching the organ initially; that is, on the organ blood flow rather than on the blood concentration at subsequent times.¹¹

206-Bismuth has been found to give high tumor to brain concentration ratios. This is because it is an intra-cellular substance which is rapidly cleared from the blood and enters the brain slowly. The low concentration in muscle and blood also makes it suitable for brain tumor localization. Since 206-Bismuth is rapidly cleared from the blood, its brain concentration, which is dependent on the latter, is quite low and the tumor: brain ratio is quite high.¹¹ 57-Cobalt Tetraphenolphosphate-sulfinate also is a compound with ideal characteristics for external localization of brain tumors. 95% is protein bound. 57-Cobalt has a single gamma emission of 123 KEV. The calculated radiation dose is within permissible ranges. There is no beta emission and the chelate is extremely stable. Its absolute tumor concentrations are as high as 131-RISA and the tumor to brain concentration ratios are superior. Unfortunately, the scanning procedure has to wait one to several days following the injection to allow a decrease in the blood concentration which occurs slowly during the first week.¹²

Selective Uptake Needed

The ideal isotope-labeled compound for brain tumor localization has yet to be found. A material with a selective uptake by the tumor is needed. Merely relying upon the differential physical diffusion of compounds does not give the contrast needed for greater reliability.

The diagnostic accuracy of brain scanning varies from 52-95%. With positron scanning, Botterell et. al. had an overall accuracy of 52%. They were able to demonstrate twenty-four of twenty-six meningiomas but only ten of thirty-seven glioblastomas, the less malignant tumors producing the negative scans. These authors were unable to get positive scans consistently on aneurysms, vascular occlusions, AV malformations, cysts, subdural

hematomas or intracerebral hematomas.¹³ Sweet and Brownell reported an overall diagnostic accuracy of 75%. They found it hardest to diagnose tumors in the posterior fossa and likewise had great difficulty with cerebrovascular accidents or arteriovenous malformations. They missed only one in twenty-four meningiomas and four of forty-two glioblastomas.¹⁴⁻²⁰ Aronow, comparing diagnostic modalities in glioblastomas and meningiomas, found brain scanning to give the fewest false normals with arteriography a close second. For glioblastomas, the E.E.G. produced 16% false normals, the air study 14%, the arteriography 5%, the spinal tap 17% and the brain scan only 4% false normals. In the meningiomas, false normals were seen in 35% of the E.E.G.'s, 19% of the air studies, 7% of the arteriographies, 30% of the spinal taps and only 4% of the brain scans.¹⁶ MacAvey and Taxdale in a series of 350 cerebral scintiscans had an overall accuracy of 73%. They had 16 positive scans without brain tumors. Seven of these were encephalomalacia; three, AV anomalies; two, hematomas; one, abscess; one, granuloma; one, epilepsy and one Paget's disease. These authors found that any condition that altered the blood-brain barrier could produce an abnormal scan. They felt that following arteriography one should wait at least a week before performing a scan. Air studies also were found to produce the same abnormality. Large doses of radiation could do the same thing as well as toxic states such as uremia, hepatic coma and drug intoxication.¹⁷ Goodrich et. al. reporting a series of 105 consecutive encephalograms, had 22 positive brain scans out of 24 known tumors. Comparing their diagnostic battery, skull films in 23 cases had only 10 positive; arteriograms in 20 cases had 17 positive; pneumoencephalograms in 4 cases had 4 positive; ventriculograms in 3 cases had 3 positive.¹⁸ Schlessinger et. al. analyzed 344 scans that had an overall accuracy of 85% and had false positives in 15%. If thromboses, cerebrovascular hemorrhages, and the unconfirmed or indefinite diagnoses were included, there was a total test accuracy of 92% with a false positive misinterpretation in 7.4%.⁵ Bender and Blau reported a positive accuracy of

83% with radioactive labeled serum albumin and a negative accuracy of 88%. While with 203-Mercury, they had a positive accuracy of 95% and a negative accuracy of 80%.¹⁹

Patients in our laboratory have been scanned with either 203-Mercury or 197-Mercury. We have used the transistorized model Picker Magnascanner of the type described fully by Herring.²⁰ A plexicast mold was used for stabilization of the patient's head during the two views, we routinely take four views of the patient's skull. Stable Mercury is given to the patient parenterally, twelve hours preceding the injection of the radioactive Mercury to reduce the dose of radiation to the kidneys. The patient is given 10 microcuries of 203-Mercury per kilogram or 15 microcuries of 197-Mercury per kilogram. A 19-hole collimator is used in front of the 2 x 3 sodium iodide crystal and the machine is set on the

photo peak of 280 KEV of 203-Mercury with a 50 KEV spectrometric window or 77 KEV of 197-Mercury with a 40 KEV spectrometric window. Of considerable advantage to the patient and laboratory personnel was the discovery that we are able to obtain readable scans at just one hour following injection of the radioactive material. This has greatly alleviated the scheduling problem and reduced the delay in the work-up of the patient. Total time for scanning is one and a half to two hours for the four standard views.

Representative brain scans of both normal and abnormal patients are reproduced for comparison and orientation. The scan itself consists of light exposed areas on regular x-ray film. The greater the radioactivity seen by the detector in any one area, the greater the density and number of dots seen on the film.

References will be supplied by the Journal on request.

*IN MEMORY OF THOSE MEMBERS OF THE MEDICAL SOCIETY
OF DELAWARE WHO DIED BETWEEN THE
ANNUAL MEETINGS OF 1964 and 1965*

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RADIOISOTOPES IN CLINICAL MEDICINE

PART I Diagnostic Uses

- The use of radioactive isotopes has assumed a role of increasing importance. This article briefly presents some of the valuable roles they play in diagnosis and therapy, with a discussion of newer techniques using radioactive materials.

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Substances introduced into the body can be tagged or "labelled" with small amounts of radioactive isotopes of one or more of their constituents and used as tracers.^{1, 2} The tagged substance, marked with a stable or radioactive isotope of the same or of a different element, must be handled by the body in a similar manner to the untagged substance in order to be clinically useful. The determination of the concentration of a radioactive isotope in a tissue, organ or body fluid may give valuable information concerning a wide range of biological and physical phenomena including the uptake, distribution, turnover rate, retention, and excretion of a given material.

The diagnostic value of a radioisotope study depends upon one or more of the following four phenomena:

(1) The amount of dilution of an isotope. This is used in determining the volume of the diluting fluid.

(2) The time involved (rate of transfer) for movement of an isotope from one part of the vascular system to another. This is of value in determining certain circulatory dynamics.

(3) The rate of disappearance of an isotope into a tissue. This is used to investigate cir-

culatation in that tissue.

(4) The percent concentration of an isotope. This is of value in determining functional activity of a tissue or organ.

Isotope Dilution Techniques

These procedures resemble dye dilution techniques, differing only that radioactivity rather than color is measured. A known isotope concentration is injected into the body compartment to be studied and allowed to mix completely within it. A sample of this compartment is then withdrawn (before the material is metabolized) for assay, and from dilution of the radioactivity the size of the unknown space may be estimated.

These principles have been employed in the measurement of *blood volume*. Serum Albumin labelled with radioactive iodine (¹³¹I NSA or RISA) is probably the most popular technique.^{3, 4} Usually, 20 microcuries or less of ¹³¹I tagged to 10 mg. or less of serum albumin is injected intravenously into one arm. After about ten minutes, which is sufficient to allow adequate mixing in the intravascular pool and yet not long enough to allow metabolic activity or seepage into extravascular pools, a blood sample is withdrawn from the opposite arm. The blood volume is determined by dividing the number of radioactive units injected by the radioactivity per milliliter after dilution. Red cell and plasma volumes can be

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determined from the peripheral venous hematocrit. Whereas blood volume determinations done by dye techniques are difficult to interpret when done repetitively, serial determinations can be carried out using radioactive techniques provided that appropriate corrections are made for baseline radioactivity.

The *red blood cell volume* may be determined by the tagging of erythrocytes with an isotope, usually ^{51}Cr . Red blood cells may also be labelled with ^{32}P , ^{42}K , ^{55}Fe , ^{59}Fe or ^{86}Rb , but ^{51}Cr chromate is the isotope of choice for this purpose.

Isotope dilution methods may also be used in the determination of *total body water*.^{5, 6} Radioactive hydrogen is commonly employed for this purpose, usually in the form of ^3H (tritium). Total body potassium, sodium and chloride, usually referred to as "spaces," may be determined by the use of radioactive isotopes of these elements.^{7, 8, 9} In the determination of chloride-space, ^{52}Br is usually utilized instead of ^{36}Cl because of the latter's longer half life.¹⁰

Rate of Transfer

Studies based on rate of transfer involve the injection of a radioisotope into one part of the vascular system and determination of its time of arrival at another point.

This technique has been widely used to determine *circulation times*, especially in the extremities. ^{24}Na is well suited for these studies since it has a short half life, it is a normal body constituent, it is not selectively absorbed by any tissues and it is readily detected.^{11, 12} As little as 1 microcurie of ^{24}Na is sufficient for many studies of this type.

An extension of these methods has been used in the measurement of cardiac output. Following its intravenous injection, the passage of a radioisotope through the heart and lungs may be recorded either by assay of serial arterial blood samples similar to dye-dilution methods or by counting externally over the heart. It is important that the radioactive material used should not diffuse into the tissues during the studies. ^{131}I labelled

human serum albumin has been found most satisfactory and measurements are possible with as little as 25 microcuries injected intravenously.^{13, 14}

Rate of Disappearance

This technique is of value in determining *local circulation*. A small amount of an isotope is injected directly into the tissue under investigation, a counter is placed directly over it, and the disappearance rate observed. Radio-sodium is well suited for this technique. This type of study has been used successfully to test the circulation of tubed skin grafts in plastic surgery.^{15, 16}

A technique involving the rate of isotope disappearance from a tissue is involved in the study of *red cell destruction* and in the measurement of *red blood cell half-life*. If red cells are labelled in vitro with ^{51}Cr and then re-injected, the fate of the labelled cells may be followed by the assay of serial blood samples, since the ^{51}Cr label is only slowly eluted from the labelled cells.

About 100 microcuries of ^{51}Cr are injected in order to obtain satisfactory samples for counting. It should be remembered that, as in the Ashby differential agglutination technique, the labelled cell group contains cells of all ages. It can thus yield only a mean survival time for all cells without regard to the distribution of life span among individual cells. Moreover, since the rate of elution of ^{51}Cr from the cells is still appreciable, the method does not give an absolute value of mean survival time unless the results are corrected for the rate of loss of ^{51}Cr from the cells by elution. The rate of fall in circulating ^{51}Cr is approximately exponential and may thus be characterized by half clearance time ($T_{1/2} \text{ Cr}$). The normal half life is 26 days. This technique has the disadvantage of requiring at least two weeks for completion. Although the method may be used as an outpatient procedure, it requires office visits every two or three days in order that blood samples may be taken and analyzed. This technique has been an extremely valuable adjunct in the diagnosis of hemolytic anemias.

Concentration of an Isotope

The determination of isotope concentrations in normal and abnormal tissues has been of great value in the diagnosis of diseases, in the study of the metabolism of specific elements in the body, and in the study of the normal function of many organs. Most of the more familiar radioisotope studies fall into this category. They are best typified by studies of *thyroid function* utilizing radioiodine.

Inorganic iodine taken into the body is promptly concentrated in the thyroid gland or eliminated by the kidney. In the thyroid it is elaborated into thyroid hormone and released into the circulation. Of at least 10 isotopes of iodine, ^{131}I is the best suited for the study of thyroid function. Several aspects of thyroid function may be evaluated with radioiodine. These include measurement of the rate of deposition of iodine in the gland *in vivo*, the total accumulation in a specified period and the output of thyroid hormone.^{17, 18}

Before any test with radioiodine can be accepted as valid, it must be established that no factor has interfered with the uptake. The normal iodine intake is usually in the range of 0.1 to 0.2 mg. daily. The avidity of the thyroid for iodine is such that even small amounts will interfere with a radioiodine uptake. Some sources of excessive intake or absorption include: external application of iodine, the use of vitamin preparations and cough syrups containing iodine compounds, x-ray contrast medium containing organic iodide compounds, and some parasitocides and fungicides. Iodine uptake may be influenced for weeks by iodine-containing medications and for months by x-ray contrast media. Myelography and bronchography may have a permanent effect on radioiodine thyroid uptake.

The apparent ^{131}I uptake of the thyroid may be lowered by the following: thyroid preparations, antithyroid drugs, thiocyanate and perchlorate, corticotropin and corticosteroids, phenylbutazone, sulfonamides, para-aminosalicylic acid, arsenic, lead, mercury, malabsorption syndromes and renal diseases.

The usual technique employed is the oral administration of 5 to 25 microcuries of ^{131}I

and the amount of radioactive uptake is measured after a certain time. The most widely used test is the twenty-four hour uptake. Normal levels vary considerably from clinic to clinic, but usually are from 15-45%. The reliability of this technique in the diagnosis of hypo- and hyperthyroidism has been well established by numerous studies.

The Thyroid-clearance test measures the clearance of ^{131}I from the plasma. Twenty to thirty microcuries of ^{131}I are given intravenously and the rate of uptake over the thyroid gland measured for 30 minutes. At the end of this time the urinary excretion of ^{131}I is measured. From these data, the clearance rate in milliliters of plasma per minute can be determined.

Among other tests employing ^{131}I for the determination of thyroid function, is the protein-bound iodine conversion ratio. This technique is based upon the fact that after radioiodine is administered, there is conversion of a portion of the inorganic iodine to thyroid hormone which is then bound to the protein in the plasma and circulates as PB^{131}I . The ratio of PB^{131}I to total ^{131}I is the conversion ratio. Normal values are usually in the range of 13-42%, with hypothyroid levels below and hyperthyroid levels above these limits.

Recently, *in vitro* tests of thyroid function have been developed, including the T-3 red blood cell uptake. This is an *in vitro* test that avoids the administration of radioactivity to the patient and does not require the patient's presence or cooperation. It consists of determining the percent of triiodothyronine (T-3) that is absorbed by the large surface area of red blood cells. The uptake of T-3 by red blood cells is increased in hyperthyroidism and decreased in hypothyroidism.¹⁹ Simplified methods utilizing resins and sephadex (dextran) have been developed.^{20, 23}

Pernicious Anemia

For the study of pernicious anemia, vitamin B_{12} has been tagged with radioactive cobalt (^{60}Co). In the absence of intrinsic factor, there is little or no absorption of vitamin B_{12} , and its urinary output will be decreased. Excretion

of less than 5% is very suggestive of pernicious anemia. Following the administration of intrinsic factor, the excretion of ^{60}Co -labelled vitamin B_{12} will increase 2 to 8 fold in the patient with pernicious anemia. In normal individuals or in patients with steatorrhea or some other gastrointestinal abnormality resulting in malabsorption, this increase will not occur.²⁴ This technique has proved extremely reliable in the diagnosis of pernicious anemia and in its differentiation from other macrocytic anemias.

Other Anemias

Radioactive iron in the form ^{55}Fe or ^{59}Fe may be used to study the metabolism of iron in various anemias. Iron deficiency anemias may be studied by measuring the amount of orally administered ^{59}Fe excreted in the stools and the amount incorporated into the red blood cells. ^{59}Fe may also be given intravenously and the plasma clearance rate or erythrocyte uptake rate determined. The red blood cell uptake will be rapid in hypochromic anemias and low in aplastic anemia or the anemia of infection. There will be a slow plasma clearance rate in aplastic anemia and a rapid clearance rate in hypochromic anemia.^{25, 26}

Radioactive Carbon

^{14}C is an excellent "tag" for carbonaceous materials and has been used in many metabolic studies such as those involving cholesterol and steroids. The use of radioactive carbon and other elements for intermediary metabolic studies is for the most part experimental.²⁷⁻³⁰ Limitations on the usefulness of "tagging" have been published³¹ and should be borne in mind when very precise measurements are needed.³²

Radioactive Fat

Several years ago the use of radioiodine-labelled triolein was introduced as a technique for the measurement of fat digestion and absorption. The thyroid is first blocked with Lugol's solution and a test meal containing 25 microcuries of radioiodine labelled triolein given to the patient. Venous blood samples are drawn at intervals up to 24 or 48 hours and

a curve of plasma radioactivity obtained. Normally, levels of 12 percent plasma radioactivity are obtained in 6 hours. Fecal radioactivity may also be determined. The normal individual excretes less than 2 percent of the administered labelled fat in the 48 hours after ingestion.³³⁻³⁷ The rate of gastric emptying and gastrointestinal motility will influence excretion and absorption patterns. In malabsorption states, plasma levels are much lower and fecal excretion is increased. Recently abnormal patterns have been described in individuals with coronary artery disease.^{38, 39}

Radioactive Rose Bengal

Rose bengal dye has been used for many years as a test of liver function. Recently this molecule has been tagged with radioactive iodine and external counting over the liver performed after its intravenous injection. Normally radioactivity over the liver reaches a peak 15 to 30 minutes after the injection and then falls off gradually as excretion takes place. In liver disease there is decreased uptake of the dye by the liver. In biliary obstruction, the uptake remains normal in the absence of parenchymal involvement but the excretion rate is diminished.⁴⁰

Liver function has also been studied by the rate of excretion of various labelled radioactive materials such as iodipamide.⁴¹

Radioactive Diodrast

Investigation with radioiodine-labelled diodrast in normal individuals and in patients with a variety of renal diseases reveals that the vascularity, parenchymal function and potency of the excretory system of the kidney can be evaluated by inspecting the pattern of recorded curves of radioactivity over the kidney.^{42, 43}

Following the intravenous injection of radioiodine labelled diodrast, counts are taken independently over each kidney. This technique may be of particular value in hypertension where it is felt that a unilateral lesion may be an etiological factor.

Tumor Localization

Tissues that are metabolizing rapidly often

have an earlier or higher uptake of metabolites. It was hoped, therefore, that radioactive isotopes would be of value in tumor diagnosis and localization. Almost every tumor has been thus studied and generally speaking, results have been disappointing. Overlapping values with the normal, difficulty in detecting small and deep-seated lesions and false positive tests in inflammatory lesions have been stumbling blocks. ^{32}P has been used in attempts to detect breast, gastrointestinal, genito-urinary, pulmonary and other tumors.⁴⁴⁻⁴⁶ In most instances other diagnostic measures have been more practical and accurate, yet ^{23}P has been of great value in the detecting and delineation of eye tumors.^{47, 48} Radioisotopic methods have been of value in the localization and confirmation of brain tumors. ^{32}P may also be administered pre-operatively, and at surgery the marginal limits of the tumor may be delineated by the use of radiation detectors in the brain.⁴⁹ Several techniques have been developed for this purpose.⁴⁹⁻⁵⁴

Scans

Scintillation scanning and mechanical photoscanning are frequently employed for organ visualization and in attempts to localize and delineate tumors. There has been an increasing number of organs that have been successfully visualized. One of the more recent developments has been the report of lung scanning by the use of macroaggregates of ^{131}I serum albumen. Localization and delineation of pulmonary infarcts has been reported with this technique.^{55, 56}

A variety of isotopes have been used for brain scanning. The most successful technique involves the use of ^{203}Hg (chlormerodrin). Increased pick-up has been reported by primary and metastatic brain tumors. Differentiation from ischemic infarctions may be difficult.

Liver visualization may be achieved with the use of various radioactive dyes that are picked up by the reticuloendothelial system. ^{131}I rose bengal (tetraiodo, tetrachloro fluorescein) is commonly used and is helpful in the detection of focal lesions such as abscesses or tumors. The normal liver has a homogeneous

pick-up of radioactive dyes. The cirrhotic liver and the liver with diffuse infiltrative disease, such as sarcoidosis, has a mottled heterogeneous pattern of pick-up. Radioactive colloidal gold has also been used for these studies.⁵⁷⁻⁵⁹

The spleen may be visualized by the use of heat sensitized erythrocytes labelled with ^{51}Cr .^{60, 61}

Kidney function and visualization has been studied with ^{131}I -hippuran and ^{203}Hg .^{62, 63}

Thyroid scans are a frequent adjunct to thyroid function studies. They are valuable in the study of thyroid size, the presence of "hot" and "cold" nodules and in the localization of metastatic lesions.⁷³

Still in the investigatory stages are visualization of the placenta,^{64, 65} the parathyroids using ^{75}Se -selenomethionine,^{66, 67} bone tumors with ^{47}Ca , ^{85}Sr , ^{131}Ce ⁶⁸⁻⁷² and the pancreas by ^{75}Se -selenomethionine.^{74, 75}

Autoradiography

Autoradiography has been of great value in studying the patterns or microscopic concentration of radioactive materials in tissues. This method is chiefly used in investigational research.⁷⁶ In this technique, a photographic emulsion is brought in contact with the tissue, exposed for the proper time, developed and studied.⁷⁵⁻⁸¹ When development and exposure are standardized, intracellular quantitative evaluations are possible.

Summary

The use of radioactive isotopes can render valuable diagnostic assistance to the clinician. Many of the techniques are well suited for outpatient use.

Isotope dilution techniques are of great value in determining whole blood volume, red blood cell mass and total body water volume. Total body sodium, potassium and chloride may be determined by similar methods.

By studying the rate of transfer of an isotope from one part of the body to another, localized circulatory dynamics can be investigated. This technique has also been used in the measurement of cardiac output.

The rate of tissue disappearance of a radioactive substance is of value in determining local circulation. Red blood cell life span, an important adjunct in the diagnosis of anemias, may be determined with this technique.

The concentration of radioactive substances is of value in the study of normal and abnormal tissue and organ metabolism. Included in this group are the uptake, turnover and utilization of ^{131}I by the thyroid, the absorption and excretion of ^{60}Co in pernicious anemia, the study of erythrokinetics of ^{59}Fe , the metabolism of ^{131}I labelled fat and the study of

hepatic and renal function by dyes rendered radioactive.

The diagnosis and localization of some tumors are enhanced by the use of radioactive substances. Scintillation scanning and autoradiography are of value in the visualization of the thyroid, lungs, liver, kidneys and thyroid. The use of these techniques is promising in visualization of the parathyroids, pancreas, placenta and bone.

Autoradiography is a research tool useful at the intracellular level.

PART II Therapeutic Uses

Radioactive isotopes have proved to be valuable therapeutic as well as investigative and diagnostic tools. The effect of a radioactive isotope depends on its radioactivity rather than its chemical or pharmacological action. The therapeutic objectives are identical with other forms of radiation therapy; that is, the maintenance or restoration of the normal physiological functions of an organ or organs for the benefit of the organism as a whole. Destruction or depression of hyperfunctioning tissue or neoplastic tissue without doing irreparable damage to surrounding normal tissue is the general aim.

The therapeutic value of any radioactive isotope depends on several factors: (1) its degree of selective absorption and retention by the organ or neoplasm in question; (2) its energy value; (3) its physical and biological half-life; and (4) its role in the general metabolism of the body. Several radioactive isotopes have attained wide-spread use in the field of therapy.

Disorders of the Thyroid Gland

The effectiveness of ^{131}I in the therapy of *hyperthyroidism* has been well established. As time has confirmed its value and safety, ^{131}I has become more and more generally accepted as the therapy of choice. Opinions do vary, however. There are those who feel that there are no contraindications to ^{131}I other than for pregnancy beyond the fourth month and dur-

ing lactation. Others consider thyroidectomy the therapy of choice under the age of 40, and reserve ^{131}I for those who are poor surgical candidates for any reason. All workers do agree that ^{131}I is indicated in all complicated cases, in recurrent hyperthyroidism following surgery, in failure of medical therapy, or in those patients who are poor surgical risks.^{81, 82}

Traditionally, the small, diffuse toxic goiter has been considered the ideal case for treatment with ^{131}I . Even large goiters, however, will respond well. The toxic nodular goiter is more difficult to treat; the ^{131}I uptake is very irregularly distributed and the dose is difficult to estimate. Numerous doses may be required and the total dose may be quite high. In cases where malignancy is suspected, as in suspicious solitary thyroid nodules, or when compression symptoms are prominent, surgery is felt to be the therapy of choice.

Three general methods are available for determining the amount of radioactive iodine for use in the therapy of hyperthyroidism. First, it has been a practice of some to administer a constant basic dose. A second group of investigators use an oral dose calculated in terms of a basic constant number of microcuries per gram of estimated thyroid weight. A third method used fairly widely determines the oral dose in terms of a basic constant number of microcuries taken up by the thyroid gland per gram of estimated thyroid weight. It is obvious that estimation of the weight of

PROPERTIES OF FREQUENTLY USED MEDICAL ISOTOPES

Isotope	Radiological Half-life	Beta Energies* (Mev)	Gamma Energies (Mev)
³ H	12.26 Y	0.018(100%)	—
¹⁴ C	5,770 Y	0.156(100%)	—
²² Na	2.58 Y	<i>b</i> + 0.54(89%), EC(11%)	1.28(100%), 0.51**
²⁴ Na	15.0 H	1.39(100%)	1.37(100%), 2.75(100%)
³² P	14.3 D	1.71(100%)	—
³⁵ S	86.7 D	0.168(100%)	—
⁴² K	12.4 H	3.53(82%), 2.01(18%)	1.52(18%)
⁴⁵ Ca	165 D	0.25(100%)	—
⁴⁷ Ca- ⁴⁷ Sc	4.5 D	0.66(83%), 1.96(17%)	1.31(16%)
(Daughter ⁴⁷ Sc)	3.4 D	0.44(74%), 0.60(26%)	0.16(74%)
⁵¹ Cr	27.8 D	EC(100%)	0.32(8%)
⁵⁹ Fe	45 D	0.46(54%), 0.27(46%)	1.10(57%), 1.29(43%) 0.19(2.8%)
⁵⁷ Co	267 D	EC(100%)	0.122(93%), 0.137(7%)
⁵⁸ Co	71 D	<i>b</i> + 0.48(14%), EC(86%)	0.81(100%), 0.51**
⁶⁰ Co	5.27 Y	0.31(100%)	1.17(100%), 1.33(100%)
⁶⁴ Cu	12.9 H	EC(43%), 0.57(38%) <i>b</i> + 0.66(19%)	0.51**
⁷⁴ As	18 D	1.36(17%), 0.69(16%) <i>b</i> + 0.95(26%), EC(38%)	0.60(63%), 0.64(16%) 0.51**
⁸⁶ Rb	18.7 D	1.77(91%), 0.7(9%)	1.08(9%)
⁹⁰ Sr- ⁹⁰ Y	28 Y	0.54(100%)	—
(Daughter ⁹⁰ Y)	64.2 H	2.26(100%)	—
¹³¹ I	8.05 D	0.61(87%), 0.33(9%) 0.25(3%)	0.36(80%), 0.64(9%) 0.28(5%), 0.72(3%)
¹⁹² Ir	74 D	0.67(48%), 0.53(41%) 0.26(7%), EC(3.5%)	0.296(29%), 0.31(28%) 0.60(11%), 0.61(7%) 0.48(6%), 0.59(6%)
¹⁹⁸ Au	64.8 H	0.96(99%), 0.28(1%)	0.412(96%), 0.674(1%)
²⁰³ Hg	47 D	0.21(100%)	0.279(83%), IC(17%)
²²⁶ Ra	1620 Y	<i>a</i> 4.78(94.3%) <i>a</i> 4.59(5.7%)	0.187(4%)
(²²⁶ Ra Daughters)		Many	Many

* Unless otherwise specified, the energies given are for negatrons.

** Annihilation radiation from positron emission.

Events occurring in less than 1% of the decays have been omitted.

the thyroid gland necessarily involves a certain degree of error. Five to eight millicuries is the usual dose of ¹³¹I in the treatment of hyperthyroidism. In toxic nodular goiter, the dose may be increased by 50%. A therapeutic response usually begins after the second week

following the administration of ¹³¹I, and the full effect is usually seen in about six weeks. If, however, a second dose of ¹³¹I is deemed advisable, it is best to wait approximately three months after the administration of the initial dose. The incidence of myxedema fol-

lowing ^{131}I therapy has been reported as being as high as 20%. Recent figures indicate that the incidence of permanent myxedema need not exceed 3%.

In Cardiac Patients

^{131}I therapy has also been employed in the treatment of cardiac patients with intractable cardiac failure or severe coronary insufficiency. The results obtained, though varying greatly from clinic to clinic, seem to justify the procedure in properly selected cases when the prognosis for a useful life is otherwise unfavorable.

^{131}I has been used extensively in the treatment of *carcinoma of the thyroid* and its metastases. It is well recognized that a metastatic thyroid nodule may reproduce the histologic picture of functioning thyroid tissue and actually be capable of concentrating iodine within its cells. Patients suspected of thyroid cancer should undergo whole body scanning with ^{131}I . In the presence of functioning metastases, the radioactive material will be picked up by the functioning metastases. In attempts to increase the therapeutic effectiveness of ^{131}I in the treatment of thyroid cancer, various measures have been taken to convert non-functioning tumors into functioning tumors or to increase the uptake of ^{131}I in functioning tumors. Thyroidectomy is recommended in all cases where therapy with ^{131}I is contemplated. This will remove a competitor of the isotope as well as taking care of complicating local factors due to depression or invasion. Thyroid stimulating hormone (TSH) has been employed in an attempt to convert non-functioning metastases into metastases that will take up iodine. The initial therapeutic dose of ^{131}I for thyroid carcinoma is the range of about 100 millicuries. If necessary, a similar dose may be given at two-month intervals.⁸³⁻⁸⁶

Radioactive Phosphorus ^{32}P

Radioactive phosphorus ^{32}P has been used in a variety of diseases generally classified as myeloproliferative disorders. Its greatest use has been in the therapy of polycythemia vera where there is an overproduction of all formed

elements of the blood by the bone marrow. The purpose of ^{32}P therapy in polycythemia is not to accelerate the destruction of the circulating cells, but to inhibit their increased production in the hematopoietic tissues. Since the normal red blood cell has a mean survival time of about 120 days, it is obvious that no immediate effects can be expected from this form of therapy. Consequently, most workers in the field recommend preliminary phlebotomy to reduce the circulating red cell mass prior to therapy. The ^{32}P is administered intravenously, usually in doses of 3 to 5 millicuries. The full effects of the radiophosphate will not be noticed for a period of two to three months. If the desired reduction in blood count has not resulted, a repeat course of ^{32}P is indicated. The ^{32}P dosage should not exceed six millicuries during any six month period. A single course of therapy, however, may induce a remission lasting several years. It is said that remissions lasting from six months to six years result in 75% of the cases of polycythemia vera treated with ^{32}P . The complications that may follow ^{32}P therapy are those that are generally associated with any form of ionizing radiation. These include depression of the hematopoietic tissues and radiation sickness. The problem that has raised the greatest amount of controversy regarding the use of ^{32}P in polycythemia vera, revolves about the incidence of leukemia in the treated cases compared to the incidence of this complication in untreated cases or in cases treated by other means. Opinions vary, but the general consensus is that the incidence of leukemia in patients treated with ^{32}P is no greater than in untreated cases or in cases treated by other means.

The use of ^{32}P in other neoplastic conditions of the blood and lymphatic tissues, such as chronic leukemias, acute leukemias, malignant lymphomas, and multiple myeloma has been generally replaced by some by the use of non-radioactive chemotherapeutic agents, such as nitrogen mustard, cyclophosphamide, antifolic acid preparations, urethane, and 6-mercaptopurine. Corticotropin and corticosteroids have been used to good advantage in these conditions. When radiation is required in these dis-

orders, it is usually administered in the form of external radiation.⁸⁷⁻⁹¹

Radioactive Colloids particularly gold (^{198}Au) colloidal phosphorus (^{32}P) as chromic phosphate) and yttrium (^{90}Y) have been used in the therapy of malignant effusions in interstitial pleural and peritoneal cavities. Colloids so introduced remain in the body cavity and do not enter the general circulation to any significant degree. The radiation effect of these compounds is derived primarily from their beta emission. The most favorable use of radioactive colloids has been the use of (^{198}Au) in the control of recurrent malignant exudates in the pleural space. Following thoracentesis, 35 to 75 millicuries of (^{198}Au) is introduced into the pleural cavity. Doses as high as 250 millicuries have been utilized. There is no evidence that life is prolonged by this therapy, but control of the effusion is frequently obtained. Chromic phosphate ^{32}P has been similarly employed as has Yttrium ^{90}Y . The latter has the advantage of being a pure beta emitter. These compounds have been employed interstitially, intraperitoneally and on rare occasions, intrapericardiac use has been reported.⁹²⁻⁹⁵

Radioactive isotopes have been employed in

certain types of diffuse involvement of the bladder mucosa by carcinoma. Several techniques involving the use of a balloon containing the radioactive material have been employed for this purpose.⁹⁶

Interstitial implantation of radioactive isotopes has been used in the treatment of neoplastic conditions that are readily accessible to this technique. They have been employed most frequently in carcinomas involving the oral cavity, rectum, vagina, and occasionally in advanced breast carcinoma and in bladder tumors. Many techniques have been employed and many radioactive isotopes utilized. Tantalum (^{182}Ta) and iridium (^{192}Ir) in the form of beads or wires have been utilized extensively in oral carcinomas. Seeds or wires of ^{60}Co or (^{198}Au) have also been utilized for this purpose.⁹⁷⁻¹⁰⁰

As experience accumulates and new radioisotopes and techniques are developed, the therapeutic usefulness of radioisotopes is certain to increase. Although at present most isotopes are generally only adjuvant treatment, the future of cancer therapy may well lie within the realm of radioactive isotopes.

References will be supplied by the Journal on request.

WELCOME

Elsewhere in this issue under the title "The Physician and The Pharmacist" begins a new monthly feature submitted by the Delaware Pharmaceutical Society in an effort to promote closer relationship and co-operation between the members of our two Societies. The purpose of this feature is indeed commendable and we welcome this addition to our Journal.

POSTPARTUM PSYCHIATRIC SYNDROMES

- The author believes that the postpartum syndrome should be examined and investigated from the psycho-physiological point of view.

NICHOLAS DESTOUNIS, M.D.

Postpartum mental illness was first clinically described by Hippocrates in the 4th century B.C. In the Third Book of the *Epidemics*, he cited the case of a woman who gave birth to twins, experienced severe insomnia and restlessness on the sixth day postpartum, became delirious on the eleventh day, then comatose, and died on the seventeenth day.

In 1838, Esquirol dispelled a great deal of the mysticism surrounding the disease, and during the remainder of the 19th century considerable interest in the problem arose.

Marce's (1858)⁸ outstanding book on "*Traite de la folie des femmes enceintes; des nouvelles accouchees et des nourrices*" is perhaps the only comprehensive book in the world literature on the subject.

In 1942, Boyd¹ emphasized the importance of the psychological, physical, physiological and social stresses imposed upon the pregnant woman.

Brew,² in his studies on postpartum psychoses found that 14% had a family history of psychosis, and in 60% a definite personality make-up could be determined; 23% of the patients gave a history of a mental disorder associated with a previous parturition.

Hamilton (1962)⁷ tends to favor the physiological etiology of these syndromes.

The central thesis of this communication is that psycho-socio-physiological factors play

an important role in the development of the postpartum psychiatric syndromes.

Clinical Picture—Etiology

The clinical picture of a postpartum psychiatric syndrome varies greatly and it is rather difficult to diagnose with certainty whether a patient presents symptoms of an acute schizophrenic reaction, manic depressive reaction, or border line psychosis (severe obsessive neurosis with phobias).

Several investigators have reported that the presence of delirium in post partum psychiatric illness varies from 28-34%. If we are to accept that the symptom delirium accompanies its clinical picture, then we ought to examine the whole of this subject from a pathophysiological viewpoint, for in most cases the symptoms of confusion and delirium are signs of an organic syndrome (metabolic, toxic, chemical, nutritional, etc.). At this particular point a very important question arises. Do the postpartum psychiatric syndromes develop only due to a disturbance of the physiological equilibrium of the organism? This can not be accepted for the following reasons:

1. We believe that the etiology of the postpartum mental illness is a *psycho-socio-physiological* one.
2. Our experience has shown us that the symptoms of confusion and delirium do not always accompany its clinical picture.
3. We believe that, as the minor or major

*Presented at the 2nd International Congress of Psychosomatic Medicine in Obstetrics and Gynecology, Vienna, Austria, July, 1965.

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pregnancy complications can be prevented by psychotherapeutic means the same can be achieved with this syndrome providing the chymes of the organism are normal.^{3,4,5}

Objectives

- A. To determine the physiological, psychological and socio-economic factors associated with the postpartum mental illness.
- B. To establish the incidence of an organic pathology (confusion, delirium) in postpartum psychiatric syndromes.
- C. The relationship between A and B.

Hypotheses

1. That psycho-socio-physiological factors are associated with postpartum psychiatric syndromes.
2. That the organic symptomatology (confusion, delirium) does not necessarily accompany a postpartum psychiatric illness.
3. That the incidence of a schizophrenic like postpartum illness is higher than any other postpartum mental illness.

Methodology

To accomplish the objectives of our study, arrangements were made so that all the admitted patients with a history of a postpartum mental illness were seen, interviewed and treated by the author. A complete medical-obstetrical and psychiatric history was obtained which included father's and husband's socioeconomic status, dwelling data, religion, age, education, nationality, etc. Furthermore, the physical examination and investigation included a complete laboratory work including PBI.

Study Group

We are presenting here the study group of 26 patients who were seen in different psychiatric wards of general and state hospitals between the years 1955-1963 in U.S.A. and Canada.

Results and Analysis

Thus, 15 of the patients were classified as paranoid schizophrenics whose clinical picture was as follows: paranoid ideas with delusions, auditory hallucinations, depression, dissociations, unrealistic thinking, inappropriate affect, etc. Five were classified as manic depressives whose clinical picture was as follows: elation with flight of ideas, unlimited confidence (manic face), or motor retardation, guilt feelings, depression, self-accusations, loss of self-esteem, obsessional thinking, self-depreciation, suicidal ideas, insomnia (depressed phase). Five were classified as non-psychotics but clinically they presented symptoms of a mild depression accompanied by obsessional thinking and phobias. One was classified as schizophrenic (schizo-affective type) with profound impairment of both ego and super ego.

It is important to note here that only one patient of the 26 had developed symptoms of confusion or delirium and this was confirmed by the obstetricians and family physicians who had seen first the patients prior to their admission to the psychiatric ward.

In our group, the appearance of the psychiatric symptoms took place between 4-9 days postpartum. (Furthermore, it was found that 12% in the schizophrenic group had a family history of mental illness, in contrast to 8% in the non schizophrenic group. In addition, 50% in the schizophrenic group had a definite abnormal personality makeup (schizoid) in contrast to 26% in the non schizophrenic group whose personality structure was suggestive of a mixed type of character disorder.

None of the patients in both groups gave a history of a mental illness associated with a previous parturition (average number of pregnancies³).

From the socioeconomic point of view it is important to note here that of the 16 patients of the schizophrenic group, 6 belonged to the I and II social class,* 5 to the III s.c., and 5 to the IV and V s.c. Of the 5 patients of the Manic-Depressive group, 2 belonged to the I and II s.c. and 3 to the III s.c. Of the

*Social classification used is based on the British classification of occupation in 1950.

5 patients of the neurotic group, all of them belonged to the I and II social class.

Case History

The salutary effect of our therapeutic regime upon hospitalized patients suffering from a postpartum psychiatric syndrome will be shown in the following case history.

The patient, 22 years of age, was married in 1958 to a farmer six years her senior. She had two children 3 and 2 years old.

The patient was admitted to the Provincial Mental Hospital on May 18, 1962, nine days postpartum.

Life Situation

Parents: Mother had died at the age of 30 from postpartum hemorrhage when patient was 1½ years old. Her father was remarried when she was 8 years old. There was no evidence to suggest conflicts with her parents, in fact, she described both the father and the stepmother as "wonderful people."

Basic Personality: She was a very inadequate type of person having at the same time a profound "inferiority complex" due to her physique (obese).

Marital Life—Husband: She described him as being withdrawn and unsociable. In general, she felt unhappy.

Social Relations—Adaptability: She did not have close friends and the few with whom she made an attempt to relate to felt rather "rejected." A great deal of anxiety and "shame" were present in her interpersonal relationship particularly when the husband was with her.

Pregnancy: Her feelings at the beginning of the pregnancy were acceptance of it, but later on, she developed anxiety and fear, for she felt inadequate to confront the new responsibilities.

Labor-Delivery: During the labor period, she was rather calm and the delivery was normal baby of 7 pounds was born under general anesthesia.

Day of Crisis

This began immediately following her dis-

charge from the hospital (sixth post delivery day). Thus, upon her arrival at home she started to talk to her older children, assuring them that "I love you," "you both are members of the family." On the same day she became depressed, confused and having the baby in her arms she went back to the hospital where she began to scream "I am going to die." She was taken home, and the next day she felt absolutely inadequate and incapable of taking care of the baby. In view of these feelings, she called upon a relative to assist her and, in particular, to bathe the baby. While the relative was still at her home, she developed a psychotic reaction accompanied by somatic delusions (she thought that the whole of blood had left her body, and that the placenta was still inside of her).

On the ninth postpartum day, her condition became worse, and she attempted to kill herself (threw herself out of the first floor window and was injured in the face).

Initial Interview

During the initial session, the patient was very apathetic and preoccupied with suicidal ideas and thoughts. Furthermore, she was extremely melancholic and considered herself a very inadequate person. In addition, feelings of guilt and futility were present, accompanied by auditory hallucinations, paranoid ideas, and self-accusations. Her affect was inappropriate and her insight into her illness nil. Both memory and orientation were intact in all spheres.

Diagnosis

Acute schizophrenic reactions (schizo-effective type).

Treatment—Progress

Her physical condition was within normal limits, and all the laboratory tests revealed no abnormality, including PBI. Thorazine 75 mg. q.i.d. in combination with Elavil 25 mg. t.i.d. was given and her condition was improving considerably.

Unfortunately, on June 17, 1962, namely one month following her admission to the hospital she again developed paranoid ideas, delusions accompanied by profound depres-

sion and suicidal ideas. In view of these developments we administered ECT twice a week, along with the above mentioned regime. She received a full course of 21 ECT's and was discharged on August 30, 1962, free of any psychotic symptoms having made at the same time a satisfactory psychological and social recovery.

Discussion

The very complicated thesis of the postpartum psychiatric syndromes is still in the stage of investigation.

In our opinion, special research teams (obstetricians-gynecologist, psychiatrists, psychologists, biochemists, etc.) should investigate more thoroughly these syndromes under the prism of a *psycho-physiological approach*.

Furthermore, we believe that the type of the postpartum psychiatric illness depends to a great degree upon the basic personality structure of the woman prior to her illness.

Summary

This study reports 26 patients who have

been treated for postpartum psychiatric syndromes. The following observations were made:

1. Of these 26, 15 were schizophrenics (paranoid type), 5 were suffering from a manic depressive psychosis, 5 were found to be non psychotics, and 1 was suffering from schizo-affective psychosis.
2. Of 26, none had developed delirium, and only 1 became confused during the acute episode.
3. The development of the different psychiatric symptoms was occurred between 4-9 days postpartum.
4. The combination of ECT, Thorazine and and Elavil⁶ gave us excellent therapeutic results.
5. From our studies and continuous investigations we do not hesitate to suggest that the problem of the postpartum psychiatric syndromes should be approached psycho-socio-physiologically.

References will be supplied by the Journal on request.

CLINICAL CENTER STUDY OF DISEASES OF CALCIUM METABOLISM

The cooperation of physicians is requested in a continuing clinical study of calcium metabolism and calcium kinetics being conducted by the Metabolism Service, NIH. Patients with hypo-parathyroidism, hypercalcemia of malignancy without bony metastases, Paget's disease, osteogenesis imperfecta, and idiopathic osteoporosis (in males) are of interest.

Patients with roentgenologic evidence of bone disease as well as documented serum calcium abnormalities would be of special interest. Patients should be clinically stable, ambulatory, continent of urine and feces, and be willing to participate in metabolic balance study, including administration of Ca^{47} , during a 30-day admission to the Clinical Center. Interested physicians may write: James Phang, M.D., Clinical Center, Rm 3-B-40, NIH, Bethesda, Md.

THE FOOTBALL KNEE

A GENERAL PLAN FOR REHABILITATION OF A SPRAINED KNEE

C. ROYER DONOHO, M.D.
C. ROY RYLANDER, Ph.D.

*"Whenever young men gather regularly on green autumn fields or winter ice, or polished wooden floors to dispute the physical possession of various leather and rubber objects according to certain rules, sooner or later somebody is going to get hurt."*¹ Until recently, when in 1956 the AMA Committee on Sports Injuries became active, this obvious fact had received little attention in the United States.

Sport today has become a major occupation. This is true not only because of the increasing number of sportsmen, but also because of the national and international prestige which attaches to excellence in sports. Along with this has developed a specialty all its own known as Sports Medicine.

Of all the injuries encountered in sports, the sprain² is probably the most common injury and often presents the more serious problems. Of the sprains, the more serious and disabling ones occur to the knee, ankle and shoulder and in this order of frequency. For example, records of injuries in varsity football at the University of Delaware since 1956 indicate that, of those sprains which required the altering or missing of at least one day's practice, there were 119 sprains of the knee, 60 of the ankle, and 23 of the shoulder.

The unique structure and functioning of the knee make it especially vulnerable to

direct and indirect trauma in all sports. This is most apparent in the sport of football where the running player absorbs body contact, tries to avoid body contact, or simply changes direction, all the while wearing a cleated shoe.

The structures of the knee usually involved in a knee sprain include (1) the medial collateral ligament, (2) the medial meniscus, (3) the anterior cruciate ligament, and (4) the lateral collateral ligament. Injuries to the posterior cruciate ligament and lateral meniscus are rare.

The following general plan for rehabilitation of a sprained knee has evolved from our experiences at the University of Delaware. While it is understood that each injury must be evaluated on its particular circumstances and on an individual basis, it was felt a general plan of treatment and rehabilitation as outlined in the following paragraphs would be of interest and perhaps of some value to (sports minded) Delaware physicians. No attempt has been made to indicate the many ways in which a knee may be taped for medial or lateral support, for prevention of hyperextension or for support of an unstable knee with cartilage involvement.

I. For mild sprain or stretch—no swelling

A. Ice first day; remove from play. Ace

Dr. Donoho is Medical Consultant to the Student Health Service, University of Delaware and for the past twenty years, team physician to the Varsity Football team; Dr. Rylander, F.A.C.S.M., is Associate Professor of Physical Education and Head Trainer, Athletic Department, University of Delaware.

1. Thomas B. Quigley, M.D. — Past Chairman of the AMA Committee on the Medical Aspects of Sports.

2. Sprain is herein defined as a stretching or tearing of one or more ligaments in a joint caused by the sudden twisting or wrenching of the bones which make up that joint.

TABLE I
Progressive Resistance Exercise Program
Quadriceps and Hamstrings

1st Week		4th Week	
	10 RM*		10 RM
	25 lbs.		55 lbs.
	5-8 RM		5-8 RM
	35 lbs.	Quads	65 lbs.
Quads	1-4 RM		1-4 RM
	40-45 lbs.		70-75 lbs.
	15 RM		15 RM
	15 lbs.		45 lbs.
	10 RM		10 RM
	20 lbs.		45 lbs.
	5-8 RM		5-8 RM
	30 lbs.		55 lbs.
Hamstrings	1-4 RM	Hamstrings	1-4 RM
	35-40 lbs.		60-65 lbs.
	15 RM		15 RM
	10 lbs.		35 lbs.
Single lift capacity should be about 50 lbs.		Re-check single lift of both legs at end of 6th week. Approx. balance should be obtained.	
Test unexercised side.			
2nd Week		5th Week	
	10 RM		10 RM
	35 lbs.		65 lbs.
	5-8 RM		5-8 RM
	45 lbs.		75 lbs.
Quads	1-4 RM	Quads	1-4 RM
	50-55 lbs.		80-85 lbs.
	15 RM		15 RM
	25 lbs.		55 lbs.
	10 RM		10 RM
	30 lbs.		50 lbs.
	5-8 RM		5-8 RM
	40 lbs.		60 lbs.
Hamstrings	1-4 RM	Hamstrings	1-4 RM
	45-50 lbs.		65-70 lbs.
	15 RM		40 lbs.
	20 lbs.		
3rd Week		6th Week	
	10 RM		10 RM
	45 lbs.		75 lbs.
Quads	5-8 RM		5-8 RM
	55 lbs.		85 lbs.
	1-4 RM	Quads	1-4 RM
	60-65 lbs.		90-95 lbs.
	15 RM		15 RM
	35 lbs.		65 lbs.
	10 RM		10 RM
	40 lbs.		55 lbs.
	5-8 RM		5-8 RM
	50 lbs.		65 lbs.
Hamstrings	1-4 RM	Hamstrings	1-4 RM
	50-60 lbs.		70-75 lbs.
	15 RM		15 RM
	30 lbs.		45 lbs.
Single lift capacity should be about 70 lbs.			

bandage and sponge applied after 30-60 minutes of ice.

B. Beginning day after injury and daily thereafter.

1. Progressive resistive exercise program

3. Note: The quadriceps exercise is executed while the athlete is lying on his back on a low bench or table (18-20 inches high). The weighted boot is attached to the foot of the injured leg and rests on the floor. This low bench or table reduces the excursion of the knee and helps to prevent osteoarthritic conditions from complicating recovery. It also prevents the player

from hanging heavy weights directly downward on the injured ligaments. The hamstring exercise is executed while the athlete is in a standing position, arms braced against a wall.

4. Whirlpool may also be used alone, or following the ultrasound treatment ONLY when the danger of further hemorrhaging or extravasation of fluid into the joint is passed. If the whirlpool causes any additional swelling, discontinue its use until it can be safely used.

5. Klein, Karl K., "Progressive Resistive Exercise and Its Utilization in the Recovery Period Following Knee Injury", *The Journal of The Association for Physical and Mental Rehabilitation*, 10:3:94-98, May-June, 1956.

*RM — Repetition maximum for the particular bout of the exercise; raise leg to full extension and return to flexion in quadriceps exercise, and flexion to 90 degrees and return to extension in hamstring exercise. Exercises are performed with an even sustained contraction of about 2 seconds to full extension and 2 seconds to flexion.

—starting at the 3rd week if possible. (See Table I.)³

2. Ultrasound⁴ at point of tenderness (.5w/C² for 10 minutes).
3. Running (jogging at first) *with knee taped*.
 - a. On the first day after injury the athlete is allowed to jog, but only in a straight path.
 - b. Gradually increased speed, start weaving and later, run gentle figure '8's. Should not cause pain at point of sprain.
 - c. When the injured player can extend 50-60 lbs, 10 times in 40 seconds and run a tight figure '8' at full speed without pain, he can return to full duty.
4. Exercise program continues daily through 6th week. After sixth week, exercises are done once a week as a check on strength.
5. If at anytime in the rehabilitation of an injured knee, an inflammatory condition or synovitis arises in the knee, all forms of heat are discontinued (ultra sound, whirlpool, hot packs) and cortico-steroids are given until the inflammation subsides. Exercise program continues.

II. *For Moderate Sprain*—usually some swelling

- A. Removed from play; ice and pressure is applied for 1-2 hours.
- B. Depending upon severity also taped and/or placed on crutches.
- C. For the next 2 days after injury *NO* running or jogging. Wear brace continually, *or* if swelling is present knee is pressure-wrapped from ankle up to middle of thigh with enough support so that he can get around—usually without crutches.
- D. Progressive Resistive Exercise program starts day after injury and continues until 6th week has been accomplished. After 6th week, exercise just once a week as a check on strength.
- E. When there is swelling and extravasation of fluid into the joint *oral enzyme therapy* is immediately begun and con-

tinued for at least 8 days, or longer if hemorrhaging persists. Ultra sound therapy begins as soon as swelling subsides.

- F. After 2 days of REST, except for P.R.E. program, player begins to jog and run in straight lines for about 1 week. Knee is taped for running. It will take about one more week before he can work up to running the tight figure '8' at full speed.

III. *The degree of injury* in this category includes (1) a mild or moderate sprain with locking of the knee joint and (2) a mild or moderate sprain with some degree of meniscus involvement indicated by tenderness of the medial and/or lateral meniscus and restriction in motion—both usually with some swelling.

- A. Follow treatment plan as outlined in II.
- B. In addition to taping to support weakened ligaments, knee is also taped to prevent full extension.
- C. Sometimes locking is temporary due to involvement of infrapatellar fat pad; but if locking persists after a week or two of treatment player is referred to an orthopedic surgeon for probable surgical repair.

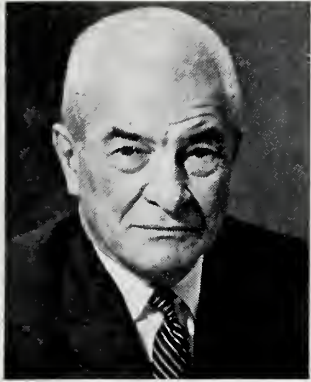
IV. *For Severe Sprain* in which one or more ligaments have been ruptured, usually with cartilage involvement, he is immediately placed in infirmary or bed with the knee in about 15 degrees of flexion. Ice is applied for the next 24 hours. Player is scheduled for surgery as soon as possible.

Summary

A general plan for treatment and rehabilitation of a sprained knee has been presented for the information of sports minded Delaware physicians. This general plan has evolved from a number of years of experience in the athletic injury care program in the Athletic Department of the University of Delaware.

The degrees of sprain are classified as (1)

(Continued on Page 30)



President's Page

HOSPITAL FACILITIES GEARED FOR JULY 1, 1966

The general hospital is the bottle neck. During winter months, the problem is critical, with long waiting lists. Elective admissions wait eight weeks; sometimes longer.

In Canada 19 million citizens have been on government-financed medicine since 1958. Elective admissions wait four months in some provinces. This problem has developed slowly but consistently. General hospital facilities have not kept pace with demand. In England patients must wait for hospital admission. In Sweden patients wait as long as five years.

On July 1, 1966, 19 million U.S. citizens over age 65 will be brought under Medicare. Experience in this country is apt to be like other countries.

Doctors will be busier. In Canada average income, all doctors, increased from \$23,616 in 1960 to an estimated \$28,155 in 1965; about 20%. More patients, more institutional demand. More institutional demand, longer waiting lines—unless, something is done about it. Experience of other countries might profitably be studied, but more may be gained by study at home.

Are general hospitals presently used to best advantage? Some beds are closed for lack of staff. With careful reassignment, can present personnel accomplish more if patients are placed by condition, i.e., selective care, self care, long term care? How many patients may be transferred to nursing homes if suitable financing can be arranged? There are vacant beds in nursing homes in New Castle

County. How many would be happier and fare better on Home Care?

Should greater use be made of outpatient services of all kinds? How many patients are admitted for surgery who could be outpatients. How many diagnostic studies could be successfully completed without admission? What part does Blue Cross and other third party coverage play in this? How are government facilities in the State being used? Emily P. Bissell Hospital wants its situation studied. Beds are empty there while patients await admission elsewhere. What about the vast potential of Governor Bacon Health Center? Use of this public asset has been left entirely to the judgement of the Department of Mental Health. Should it be evaluated on a broader base?

After July 1 will Medicare confound the existing confusion? Is the medical profession ready? Who specializes in geriatrics? What proper medical provision should be made for the old? Is congregate care the answer?

The profession must face the issue. Only the doctor who admits can discharge. With medical and surgical occupancies at 100% or better in some hospitals patients cannot get in until other patients get out. The answer is not complaining about admissions, it is arranging for discharges. This demands planning and cooperation.

A. M. Gekret



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



The physician and pharmacist share the legal responsibility to provide narcotic preparations to the patients they serve. Misunderstanding and misinterpretation of both the State and Federal Narcotic Acts has always existed in both professions. This review is intended to alert the physician to his responsibility under the Statutes and to explain the role of the pharmacist in dispensing narcotic products to the community.

The Federal Act and Delaware State Code provide for the following categories of narcotics:

"A" Potent analgesics such as morphine, meperidine (also codeine salts when prescribed without other therapeutic substances)

"B" Codeine and dihydrocodeinone salts when prescribed with other substances in therapeutic doses such as Aspirin compound with Cod. Phos.

"X" Exempt preparations such as Elixir Terpin Hydrate with Codeine (Codeine gr/fl. ounce)

"M" Non addicting products as papaverine

All "A" products require that the prescription written by the physician be presented to the pharmacist before dispensing to the patient. In cases of emergency the pharmacist may deliver the prescription to the patient and pick up the prescription written by the physician at the home of the patient. These prescriptions are non-renewable.

"B" products may be received by the pharmacist either written or orally. (If orally, must be reduced to writing immediately after receiving.) These prescriptions are non-renewable.

"X" products can be purchased without a

prescription if the patient records certain information in an exempt narcotic registry. (Delaware regulations provide that exempts be provided to persons of 21 years and older only). Certain prescription legend materials are also exempt products. These medicinals may not be sold without a prescription because of the "caution legend" not because of the amount of narcotic employed.

"M" products can be received and dispensed in compliance with the Durham Humphrey Act.

The following information must appear on the prescription as written by the physician for all "A" and "B" medicinals:

- 1) Name and address of patient
- 2) Medicinal
- 3) Directions
- 4) Name and address of prescriber
- 5) Registry number of prescriber

The following information must be attached by the pharmacist to each label for "A" and "B" medicinals:

- 1) Name and address of patient
- 2) Pharmacy name and address
- 3) Pharmacy registry number
- 4) Prescriber's name and address
- 5) Prescriber's registry number
- 6) Directions
- 7) Delaware code provides the pharmacist dispensing the prescription sign his name and date on each A and B medicinal

The need for cooperation and understanding in the distribution of all medicaments is imperative if service to our patients is to be rendered. This statement becomes more emphatic when one speaks of narcotic medicaments. There is no doubt that the prescribing of narcotic medicinals takes more time from both the physician and pharmacist. The guide lines of responsibility are clearly defined and

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Editorials

CARDIAC ARREST

Over the years no subject has received more attention in these editorial columns than cardiac arrest, its use and abuse, and the desire—perhaps the right—of man to die in a state of dignity.

On several occasions we have decried the prevalent practice of “cardiac resuscitation” in a person dead from some overwhelming or hopeless condition. The originators and proponents of cardiac resuscitation, a life saving procedure, have themselves stated its use to be quite limited. They have likened it unto giving a patient a second chance but emphasize the fact that the patient’s condition must be such that the second chance can be accepted and utilized.

In one of our editorials we touched upon the moral and religious aspect of cardiac resuscitation. When is a person legally dead? If “life” is being sustained entirely by the use of a machine, who may turn the switch to stop the machine and when should it be turned? Even in these discussions and questions regarding the moral and religious viewpoint, the legal side was seen to creep in by the very statement “legally dead.”

The American Medical Association is beginning in the current Journal (January 3, 1966) a series of regular feature articles on “Law and Medicine.” The Editor stresses that these features are not intended to make the physician a do-it-yourself lawyer but are merely to alert the physician as to the general problems involved in his field of practice. Specific problems, of course, should be discussed by the physician with his own lawyer.

The first of these articles is entitled “Cardiac-Arrest Tragedies.” The statement is made that when cardiac arrest occurs during

surgery, the resulting courtroom complications are apt to rival those in the operating room. If the condition results in massive brain damage, as it usually does, the surgeon, the anesthesiologist, or both may find themselves targets of lawsuits involving fantastic amounts of money.

Several cases are cited and in each one the key seems to be the time involved in restoring adequate circulation. In one, the operating surgeon felt that he was not qualified to perform a thoractomy and cardiac massage and therefore called in another surgeon who performed this procedure but by the time circulation was restored, an excessive amount of time had passed and the patient suffered irreparable brain damage. In a second similar case a child’s heart stopped beating during an eye operation. The ophthalmologist feeling unqualified to open the chest and perform cardiac massage called a surgeon who was standing nearby. The surgeon performed the procedure but too long a time had passed and again, the brain was damaged beyond repair. In the third case, the surgeon performed the cardiac massage immediately but the anesthesiologist neglected to intubate the patient and expert testimony was admitted into evidence that intubation should be performed at the same time as cardiac massage.

In each of these three cases a huge award was granted. In each of these cases either the surgeon or the anesthesiologist was found guilty of malpractice.

It would seem that the only defense against such a law-suit would be for every surgeon, regardless of his subspeciality, to be capable of immediately performing thoracotomy and cardiac massage and that each anesthesiologist should be aware of their responsibilities during this procedure.

REIMBURSEMENT UNDER MEDICARE FOR SERVICES OF HOSPITAL-BASED PHYSICIANS

The Social Security Administration has issued the following proposed principles to govern the payment of physicians' services which are hospital-based. Most of the hospital specialty organizations have already taken strong stands on this question. The principles apply not only to the classic in-hospital specialties, but to services such as electrocardiograms, electroencephalograms and others which are less commonly associated with full-time hospital departments. SSA will hear comments from interested parties until February 10.

Principle 1.

It is not the function of the health insurance programs to determine the arrangement which a hospital and a hospital-based physician may enter into for the compensation of the physician.

Principle 2.

Whatever the arrangement may be between hospital and physician, the law requires that medical and surgical services rendered to a covered individual by a hospital-based physician be reimbursed only under the supplementary medical insurance program. The cost to a hospital for services furnished in a hospital by a physician which are not professional services to a patient will be included in the reasonable cost reimbursement under the hospital insurance program.

Principle 3.

A professional service rendered by a physician to a patient that can be reimbursed only under the medical insurance program means an identifiable service requiring performance by a physician in person, which contributes to the diagnosis of the condition of the patient with respect to whom the charge under the medical insurance program is to be recognized, or contributes to the treatment of such patient.

Principle 4.

For purposes of reimbursement, the Government will respect, within reasonable limits, an agreement between a hospital and a physician concerning the portion of the physician's compensation which is to be attributed to the care of individual patients and the portion which is to be attributed to service to the institution. If they fail to agree, or if their agreement appears unreasonable, it

will be the function of the fiscal intermediary handling payments under the hospital insurance program and the carriers handling payments under the medical insurance program to resolve the issue—by negotiation if possible, otherwise by time studies or other suitable methods. The amount attributed to the care of patients will, to the extent of services rendered to medical insurance beneficiaries be recognized as proper charges to such patients, reimbursable under the medical insurance program. The amount attributed to service to the institution will be recognized as a hospital cost under the hospital insurance program.

Principle 5.

Once the portion of a physician's compensation attributable to professional services to medical insurance beneficiaries has been determined, a schedule of charges can be developed. To be deemed reasonable, the charges should be designed to yield him in the aggregate, as nearly as may be possible, an amount equal to such portion of his compensation. As among the patients to be charged (identified in accordance with Principle No. 3), the allocation of charges may be based on a schedule of relative values, on a uniform percentage of the charges made by the hospital or the physician to other patients for both professional and supporting components of the services, or on another method approved by the carrier as equitable.

Principle 6.

Where a hospital-based physician himself bears some or all of the costs of operation of a hospital department and bills his patients directly rather than through the hospital, the reasonable charges for his services recognized under the medical insurance program will reflect the costs so borne by him. Where all of the costs are to be borne by the physician, charges heretofore established for such services by agreement between the physician and the hospital may be acceptable as reasonable charges for purposes of the medical insurance program, but they will require adjustment either upward or downward if the hospital has been bearing a cost significantly greater or less than its share of the proceeds of such charges.

Principle 7.

Hospitals and hospital-based physicians will be required to keep records and be prepared to

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A. HENRY CLAGETT, JR., M.D.



It is surprising that after nearly fifty years of stamp collecting I can without hesitation name my favorite three postage stamps.

The illustration on the left is that of a common ten cent stamp issued by the Confederate States of America and obtained by my grandmother in Virginia during the Civil War. This stamp is my favorite because it represents my first contact with stamps. On rainy days during my childhood I was allowed to play with it. I would mix a little flour and water and paste it on an envelope and after the session was over the stamp would be washed and put away for another rainy day. Many years later an expert looking through my album expressed amazement that I would have a counterfeit in my collection, particularly of such a common and inexpensive stamp. This opinion gave me needed self-confidence regarding my knowledge of stamps.

The second is a favorite of mine because it is the first contact I had with an expensive stamp. Realizing that general collecting is too vast a subject for any individual, I decided years ago to limit my collecting. Inasmuch as Monaco is a small and beautiful country, I tried to obtain a fairly complete

collection of its stamps. The stamp illustrated in the middle is a rare one that would cost several hundred dollars at present prices. Since this specimen has several perforations clipped in the lower right hand corner, its monetary value is only slight and I obtained it at a small fraction of its value. Nevertheless, the postmark is well centered and clear and although I subsequently obtained a better specimen, this remains one of my favorites.

The stamp on the right is a favorite because when I decided to stop collecting generally, I chose several topics. Collecting stamps relating to medicine, science, musicians, botany and other subjects presents an interesting challenge. I also have a small group that I list as "Phonies." This is one of them because it represents Christopher Columbus discovering America in the year 1492 using a telescope which, according to the experts, was discovered in 1608.

By showing these favorite three stamps I have attempted to demonstrate that stamp collecting can be an ideal hobby. One may put little or much into this hobby, both in regard to time and money, but what one can get out of stamp collecting is limited only by the interest and imagination of the collector.

In Brief

Medical School Grants Grow

Grants to U.S. medical schools from the U.I.H. amounted to \$93.9 million in 1965, up from \$19.1 million in 1958 and \$1.6 million when the grant program began in 1948. Undergraduate training grants support instructional programs in specific disease entities or particular medical specialties. Research training grants are made to enable individuals to participate in graduate training programs at medical centers. In 1948, undergraduate training received 97% of the total. In 1964—showing the impetus of research emphasis over the years—research grants amounted to 87% of the total awards to medical schools.

Tuberculosis And Children

Recommendations have been made by the American Academy of Pediatrics and the American College of Chest Physicians that all children between the ages of six and twelve months of age be tested for tuberculosis. If possible, these tests should be given before the child has been vaccinated against measles or smallpox. It was emphasized that tuberculosis infection in children still occurs and that testing should be "repeated annually up to four years of age and thereafter every two years, depending on the risk of exposure of the child and the prevalence of tuberculosis in the population group."

Transport of Radioactive Materials

The Atomic Energy Commission is issuing for public comment a proposed revision of its regulations on the transport of licensed radioactive material. Emphasis has been placed on performance standards and the development of improved shipping methods. The revision would incorporate performance standards for shipping containers and for packing and shipping the fissile materials uranium 233, uranium 235 and plutonium. It also covers the shipment of large quantities of other radioactive materials (such as radioisotopes) in single containers. A system of classification of packages of fissile material is provided so that a number of packages potentially unsafe from a criticality standpoint does not accumulate during transit or in a transport storage area. Persons wishing to submit comments should send them—within 60 days after Dec. 21—to the Secretary, U.S. Atomic Energy Commission, Washington, D.C.

The Month In Washington

The staff of the Senate antitrust subcommittee has been investigating the rise in quinine prices because of complaints from constituents reporting a sharp rise in the price of quinidine, a quinine derivative prescribed for irregular heart beats.

A PMA spokesman attributed the rising demand to the appearance of new strains of malaria that are resistant to synthetic drugs developed during World War II as quinine substitutes. This has caused demands for natural quinine to rise sharply in such malaria-infested areas as Vietnam.

The FDA has taken the first steps to implement the new law designed to halt illegal traffic in depressant and stimulant drugs. Tighter controls, effective February 1, 1966, relate to amphetamines and barbiturates, but

also authorize the designation of other depressant and stimulant drugs by regulatory orders of the FDA. The advisory committee considered several classes of such drugs, including certain tranquilizers, LSD-25 and other hallucinogenic agents.

Current Speakers On "Doctors' House Call"

Speakers for February on the Tuesday radio program (11:05 a.m. WDEL) sponsored by the Medical Society of Delaware are: Jan. 25, George R. Hilty, III, M.D., *School Health Program*; Feb. 1, Ernest Shortliffe, M.D., *The New Hospital Merger*; Feb. 8, Charles R. Miller, M.D., *Allergy in Childhood*; Feb. 15, Gerald J. Savage, M.D., *Pain*; Feb. 22, Henri F. Wendel, M.D., *The Family Doctor*.

Role Of Blue Cross In Medicare

Blue Cross, Travellers and Aetna have been appointed as intermediaries for the Medicare hospital benefits program. They will be agents or middlemen between the institutional providers of service—who will perform services for senior citizens under the Medicare program—and the federal government which will pay for certain services. The agents will make payments to hospitals, administer claims, maintain records of the use of the new program, and perform other services. Institutions will continue to handle their health transactions through organizations with which they are familiar. Delaware is included in the 77 Blue Cross Plans participating.

The Virtue Of The Oyster And The Virus

Experiments have shown that oysters and clams can quickly rid themselves of polio-virus and bacteria when transplanted from polluted water into clean water. This finding suggests that shellfish may be "purified" before marketing, much as milk is made safer by pasteurization, says the P.H.S., conducting the study. This supports observations that oysters accumulate impurities in their tissues in far greater concentrations than those found in their marine environment. The public health significance is twofold. 1) The concentration of virus particles by oysters exposed to sea water of low virus content reinforces the concept that the oyster can serve as a potential vector of virus infection. 2) The ability of the Gulf Coast oyster to reduce its load of polio-virus particles indicates that the problem of hepatitis transmitted by shellfish is not entirely insolvable.

AMDOC, Inc.

A non-profit corporation, AMDOC, was incorporated this past year to enlist American doctors and other professional persons to work in needy areas of the world. More than 65 physicians are now serving abroad on AMDOC assignments and another 125 applications from physicians are being processed. AMDOC asks that the physician pay all transportation costs for himself and his family to and from the field of service. The sponsoring organization whenever possible, will provide room and board for the doctor and his family while in the field. Main areas that have been serviced are the Central Americas, the Carribean, Africa and the Far East. AMDOC is supported by voluntary contributions of from \$1500 or more by interested parties. Interested physicians may write to: 27 Canon Perdido Street, Santa Barbara, California 93101.

Brief Briefs

- The new Medicare law provides payment for such medicines as Bugle weed, Black Widow Spider mixture, Skunk Poison and Mexican Peyote.

Brief Briefs

- Alcohol involves the partial or complete incapacitation of an estimated five million American, (or one hundred times the estimated number of narcotic addicts), according to the Ad Hoc Panel on Drug Abuse of the White House Conference on Narcotic and Drug Abuse.
- How the mind and the emotions may contribute to the development of physical illness is the subject of a variety of studies awarded a PHS grant, to identify the kinds of stress, both environmental and psychological, that bring about disease. Important to the study is the concept of "giving up"—a state of hopelessness or helplessness often found preceding organic disease.
- Advances in diabetic therapy have created the ironic situation for physicians that their longer-lived diabetic patients will ultimately face vascular complications. This problem, explored by a panel of researchers in a postgraduate seminar on *Diabetes—Concepts and Problems*, has been reproduced as a 12 inch, 33 1/3 RPM record and a 16 mm film and is being distributed to physicians by the Chas. Pfizer & Co., Inc.
- The Medic Alert Foundation has asked that physicians be reminded of the value of the Medic Alert emblem for patients who can be safeguarded in cases of emergency by carrying an identification of their hidden medical problems. The Foundation denies no one a membership for lack of fees. The A.M.A. symbol is recognized internationally.

Of Interest . . .

Dr. Philip D. Gordy, a former member of this Society, is the newly-appointed Professor of Neurosurgery and head of that division in the Department of Surgery at Jefferson Medical College and Medical Center.

THE FOOTBALL KNEE

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a mild sprain or stretch of ligamentous structures with no swelling, (2) a moderate sprain usually accompanied by some swelling, (3) a mild or moderate sprain with locking of the knee joint or some degree of meniscus involvement, and (4) a severe sprain in which one or more ligaments have been ruptured and surgery is immediately indicated.

The importance of a daily heavy progressive resistive exercise program is emphasized.

References will be supplied by the Journal on request.

THE PHYSICIAN AND THE PHARMACIST

(Continued from Page 24)

each of the two professions must assume its respective share if these medicinals are to be handled according to the statutes of our State and Nation. If any physician is of the opinion that the codes are too strict he should express himself to the authorities and law makers, not to a pharmacist who is attempting to carry out his responsibility under the law.

Medicine and Pharmacy should be allies in all health endeavors. Many examples of true cooperation have been exhibited in the past and we should once again strive to render better service to our patients in this area.

REIMBURSEMENT UNDER MEDICARE

(Continued from Page 26)

furnish information which can substantiate the agreements they enter into with respect to the allocation of the compensation of the physicians.

Principle 8.

Nothing in the foregoing principles restricts the right of the physician (in the absence of his acceptance of an assignment by the patient) to determine the amount of his charge to the patient for his services, or restricts the hospital and the physician in providing for such disposition of the payments received from the Government and the beneficiaries under the program as they may agree upon. The total costs of services to in-patients and out-patients prior to the inauguration of this program should not be increased solely by reason of the requirement for division of payments for such services between the hospital insurance program and the medical insurance program.



Delaware Academy of General Practice

● This short summary of a report given on January 4, 1966 by Dr. Charles Allen of Dover, was of great interest to the GP's who see so many patients with the "low back syndrome." His talk re-emphasized the important lesson we learned in medical school that a careful history and a complete physical examination pay great dividends in general practice.

In essence, this is a statistical review of pre-employment physical examinations given at a newly opened food production plant (General Foods—Jello Division, Dover, Delaware).

During the years 1964 and 1965, a total of 2,241 physical examinations were performed. This examination was basically a general life insurance type examination including rectal examination on men and breast examinations on women. The one difference was that all men working in production, such as maintenance, warehouse and machine operators, were required to have a screening P.A. and lateral lumbosacral spine x-ray. These films were interpreted by a board certified radiologist, and in his opinion graded as "stable" or "unstable" lumbosacral spines for heavy labor. The unstable classification automatically called for rejection of the candidate for the above-mentioned jobs.

Included in the unstable category were marked increase in angulation of lumbosacral junction, marked congenital abnormality, advanced arthritis, or marked narrowing of the lumbar or lumbosacral interspaces. Oblique views of the spine were ordered when there was any doubt on the routine films.

There were a total of 1,388 x-rays done, of which 125 were found to be unstable for heavy lifting by the above criteria. The age range was from 18 years to 53 years of age with the mean age for rejection being 40 years. Of the rejects only five admitted to any back problems, though undoubtedly many more had difficulties in the past which were denied because of fear of losing potential employment. At any rate, there were cer-

tainly several people rejected employment with unsuspected abnormalities (at least radiologically) of their lower back.

The breakdown on the abnormalities is as follows:

Narrowing of L5-SI interspaces:	36%
Spondylolisthesis:	30%
Narrowing of L4-L5 interspaces:	18%
Marked osteoarthritis (often in conjunction with narrowed interspaces):	9%
Congenital abnormalities (particularly lack of fusion of posterior elements of vertebrae):	4%
Previous disc surgery:	2%
Rheumatoid arthritis:	1%

The unstable back was by far the most common cause for rejection (55% of all medical rejects). It is difficult to fully evaluate the benefit of a screening procedure such as this, but to date in a two-year total of 5.2 million man hours of work, there has not been a documented herniated disc discovered in any employee who has had a "stable" back x-ray. There have been, of course, "lumbosacral sprains," but it has been the feeling of the Medical Department and the safety engineers that these have been much less in number than would have been anticipated.

It has been our general opinion, particularly in a compensation conscious world, that although some good employees were lost, this screening type lumbosacral x-ray for men expected to do heavy labor is worthwhile. We feel that it is worth the initial expense and does more than pay for itself in reducing potential time-lost back injuries.

Auxiliary Affairs

AUTOBIOGRAPHICAL SKETCH OF OUR NEW CASTLE COUNTY PRESIDENT—

Mrs. Leslie W. Whitney



I was born in New York City, while my father was overseas during the first World War. While growing up, I watched our neighborhood turn from gardens and golf courses to rows of tall apartment buildings. As a young girl, my time was occupied with tennis, riding, swimming at Long Island beaches, visits to museums, summers at Lake George, and faithful attendance at Girl Scout meetings for eight years.

I graduated from P.S. 69, Newtown High School, Colby Junior College, and Bucknell University, where I was a member of Delta Delta Delta sorority.

After college, I worked for three years as private secretary to the head of the purchasing department of the Imperial Chemical Industries (New York) Ltd., where we communicated with the DuPont Company daily. I was offered by boss's job when he went back to England to enlist in the British Royal Air Force, but I was unable to accept as I was soon to be married and move to Philadelphia.

I married Les during the week between his sophomore and junior years at Temple University Medical School. We had met four and one-half year before at Bucknell. We lived in North Philadelphia, and I worked as secretary to the surgical department, and secretary to the Dean of Temple University Medical School. Jennifer was born while Les was

interning at Temple University Hospital. When he went on active duty in the Navy during World War II, I went back to New York, where Christopher was born. After the war, we were back in Philadelphia for a residency in surgery at Temple Hospital, at which time Jonathan was born. In 1951, we came to Wilmington, where Les was to work for Dr. Daniel Preston for a year. Shortly after setting up private practice, and after Heather was born, Les was called back into the service, and we all took off for the Marine Air Base at Opa-Locka, Florida. This was probably the most enjoyable 18 months of our lives. In 1954, we returned to Wilmington to start practice all over again. Timothy was born in the first house we moved into, Holly in the second, and finally in 1961, we built our present home in Forest Hills Park. At last we feel really settled.

This year Jennifer is a junior at the University of Delaware, majoring in Sociology, and Chris is a pre-med student at Bucknell University. Heather is at Friends School, and Jon, Tim and Holly are at The Tatnall School.

Besides Auxiliary work, I keep busy in the A.A.U.W., Antiques and Gourmet groups, Delta Delta Delta Alumnae Chapter, and Concord Presbyterian Church.

Joan Whitney

POSTOPERATIVE ACUTE ABDOMEN

- The greatest problem seen in some patients who present with an acute abdomen after operation or trauma or procedure, is the unexpectedness of an event which in itself may thwart recognition of the new situation because it is considered to be related to that which immediately preceded it. Decision concerning treatment depends upon careful individual evaluation.

JULIAN A. STERLING, M.D.

The "postoperative acute abdomen" is too easily overlooked.

Ordinarily the acute abdomen represents the sudden onset of symptoms and signs, caused by disease or trauma, which affect the ventral aspect of the body between the diaphragm and the pelvic bones.

Symptoms of an acute abdomen include (1) pain, (2) anorexia, nausea or vomiting, change in character of bowel motions to include stoppage, diarrhea or bleeding, and (3) fever, weakness or agitation.

Signs found during examination of the patient's acute abdomen include (1) varying degrees of gaseous or fluid distention, (2) diffuse or localized tenderness with or without muscular rigidity and (3) alterations in peristaltic sounds. Together, these symptoms and signs usually predict the need for urgent surgical intervention in order to correct the abnormality. However, these symptoms and signs may be due to a condition which can be relieved without surgical procedure, or one which could be harmed by the surgical procedure, or one which can not be corrected¹.

Every aspect of the acute surgical abdomen can also be manifest after any operation, trauma, or procedure including endoscopy and radiographic study.

Urgent reoperation may be required because of bleeding (within an hour) or as an emergency for a dehiscence (up to three weeks) after an abdominal operation.

Consequently, the greatest problem seen in some patients after operation or after trauma is the unexpectedness of events which may thwart recognition of a new acute abdomen that requires urgent care.

Diagnosis of the postoperative acute abdomen can be confused by the presence of the freshly closed incision or by the use of narcotics, analgesics, sedatives and tranquilizers. It is also conceivable that pneumonia, intercostal neuralgia or blood transfusion reaction could readily simulate ileus, perforation or obstructive jaundice, respectively.

Problems of intestinal obstruction, shock, hemorrhage, inflammation and hydration can all be present following gastrointestinal operation.

For example, we recently had a patient on our surgical service because of an incarcerated

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hernia. At herniorrhaphy the sac was opened and its contents visualized, but they escaped from careful scrutiny and it was not possible to identify positively which portion of the bowel had been incarcerated. The patient, subsequently, had fever, tachycardia, hypotension, muscle guarding and absent peristalsis. X-ray examination showed free air under the diaphragm, which could have been residual after the laparotomy or due to perforation of a viscus. In this one instance conservative management was followed, the acute symptoms subsided and the patient recovered.

In different patients, decision has to be individualized in order to pinpoint the diag-

nosis of mechanical obstruction or gastrointestinal bleeding. The effects of agents used for anesthesia and of the operative procedure can be contributory and the possible perforation of previously damaged bowel or of bleeding from a recent stress ulcer have to be considered.

Often re-operation is urgently indicated; in other patients re-operation can be harmful. In postoperative patients stabilization of blood and fluid volumes, reorganization of electrolyte levels and re-evaluation of technical procedures are all to be assessed and judged in view of all available data.

THE ACUTE ABDOMEN FOLLOWING GASTROINTESTINAL OPERATIONS

Ileus or Obstruction?

Mechanical small bowel obstruction occurs frequently in the early postoperative period, but symptoms of vomiting, distention, obstipation, fever and leukocytosis are so frequent after laparotomy that even careful and repeated clinical, laboratory and radiographic observation may sometimes fail to resolve the differential diagnosis.

Since mortality² from mechanical small bowel obstruction is very high (20%), the diagnosis should be established as soon as possible.

Use of the long intestinal tube may, in many situations, overcome distention to permit restoration of normal physiologic states. This event of recovery from an acute postoperative obstruction will not stop development of chronic low-grade partial obstruction from which exacerbations can recur in subsequent years.

Hypoproteinemia in an individual with progressive deficiency in nutrition prior to operation, the onset of peritonitis not due to leakage, or pancreatitis are examples of the importance of accurate diagnosis since these will not ordinarily be relieved by an operation.

Clinical restoration of normal gastrointestinal functions and normal peristalsis, even in

the presence of gaseous distention of the bowel on x-ray examination, is reason to continue conservative management. On the other hand, increasing size of multiple small bowel loops and the failure of a long tube to advance past the pylorus in the absence of identifiable causes may indicate that surgical correction is required.

If any doubt exists, Gastrografin® or a thin barium mixture should be used, particularly if an intestinal tube is in place which permits the barium suspension to be aspirated. If under such circumstances, rapid passage of the barium mixture occurs, then there is no obstruction; delay in passage from the stomach for one to three hours indicates partial incomplete obstruction or some type of ileus. Greater delay, up to three to four hours in passage of the barium from the stomach indicates existence of mechanical obstruction. It is unnecessary to take multiple x-ray films during the course of several days, when it can be demonstrated that barium is or is not passing through the intestinal tract.

When the diagnosis of postoperative mechanical intestinal obstruction is made, re-operation is urgently required. The sun should not set, said John B. Deaver, on the surgical care of the intestinal obstruction which is seen at dawn.

Perforation or Peritonitis?

Fluid or gelatin-like exudate often resembling glue or liquid cement can be seen if the peritoneal cavity is re-explored within a few days following operation for ileitis or ileocolitis. Hyperemia, granulations and exudates of the healing process may produce a clinical reaction or a fresh perforation may disturb the tranquility of an otherwise benign postoperative course.

A case in point was seen³ following ineffectual attempts to relieve a small bowel obstruction due to an acute recurrent ileocolitis by long intestinal tube, operation was done. At that time it was found that all coils of the small bowel were glued together in a solid mass which could not be safely separated. Through numerous enterotomies the tip of the long tube was drawn past the site of the previous ileotransverse colostomy. This relieved the obstruction. Three years later, the patient required operation to correct jaundice due to stones in the common bile duct. At that procedure there were no adhesions nor evidence of recurrence of the ileitis. The patient has been well for many years since.

An emergency state usually heralds its appearance by a new symptom or sign, such as pain, fever, syncope, hypotension, leukocytosis or apathy. The usual healing or recovery process, although it may produce a pattern that looks like a peritonitis, will not usually have an acute exacerbation except if there be a fresh episode due to perforation of a viscus or to the rupture of an otherwise walled-off abscess.

Use of prophylactic antibiotics may occasionally hide the formation of an abscess until such a time as it can no longer be walled off. Either rupture of the abscess with massive soiling of the peritoneal cavity or a downhill septic course will follow.

Suture line deficiency, leakage from the appendiceal stump, perforation of an ischemic area in the gut following mesenteric artery embolectomy, or gangrene of bowel of doubtful viability, or blow-out of a cystic duct stump are all causes of acute peritonitis. In other cases continued leakage of a ruptured

ovarian follicular cyst or pancreatic fluid leakage from a pancreatic cyst may appear and be variously misinterpreted as indications for reoperation which actually may not be needed.

Our experience has been that an acute episode within the first six days after an anastomosis in the gastrointestinal tract would indicate that leakage has occurred. If a drain has been placed, telltale fluid will identify the source. In the absence of a drain the surgeon may be hard pressed to establish diagnosis. Laparotomy should be done to close or intubate the duodenal stump, to religate the leaking cystic duct, to drain the appendectomy stump, to drain an anastomotic leak and to establish a diversionary colostomy for the leaking colonic anastomosis and provide adequate drainage in other cases. Additional procedures such as the gastrostomy or jejunostomy for feeding may be indicated as an emergency. If a good probability exists of a correctible defect then an operation should not be deferred, since an ostrich head-in-the-sand approach is not necessarily valid.

With the development of a new situation unrelated to previous operation an emergent procedure should not be deferred because of the fact that the patient just had an operation. For example, appendicitis can occur in a patient who just had a resection of the fractured radial head.

Four quadrant peritoneal aspiration can be used for diagnosis of exudate and identification of bleeding.

Dehiscence or Wound Infection?

Serosanguineous or seropurulent fluid can drain from an incision between the fifth and twelfth day. Usually the surgeon suspects hematoma and may remove a stitch or two assuming that these are producing excessive tension. Culture frequently is taken and the incisional area sometimes is strapped. However, a few hours later the patient's outcries call to the attention of the nurse the presence of a segment or segments of bowel on the abdominal wall. The dehiscence is now identified.

It is generally agreed that there is little or no strength in such wounds during the first

4 to 5 days; during the next few days, in the phase of fibroplasia, a significant increase in the tensile strength of the wound is noted.

The holding power of a wound, represented by its tensile strength, is almost entirely a function of number of fibroblasts and their maturation: it is known now that in clean incised wounds of the above tissues, tensile strength returns to approximately 95% of normal⁴ in 12 to 14 days. Consequently, dehiscence is very rare after 21 days.

Hampton⁵ describes dehiscence as occurring when "all layers down to the peritoneum had parted, although the peritoneum itself was sometimes intact." The term "burst abdomen" used by Hampton to describe evisceration has been defined in American dictionaries⁶ as due to "injury to abdominal contents without penetration" as by blast concussion. He studied 120 cases in 30,610 operations including a series of similar controls. There was an overall frequency of 0.39%. In general the typical dehiscence is seen in men (3:1) between the ages of 60-70, usually 5-12 days after an operation on the stomach or the biliary tract in whom an upper abdominal vertical incision is made regardless of suture material and usually follows a sudden increase of intraperitoneal pressure as caused by either a paroxysm of coughing or straining to evacuate.

A second dehiscence of abdominal incisions is rare. It is probable that protection from a second dehiscence is related⁷ to the timing of local wound healing mechanisms.

Surgeons have their own preference and individualize their treatment of patients with dehiscence. Some patients need general anesthesia, some spinal, and other local anesthesia. Some patients need through-and-through sutures and other can be repaired in layers. Some surgeons use rigid, other flexible suture materials.

Management to prevent evisceration is to prevent the explosive cough and vomiting, to decompress distention and to avoid constipation. It is noted that drainage from an incision, the absence of a "healing ridge" should alert the surgeon to the possibility of a wound dehiscence.

Bleeding or Shock?

Postoperatively anywhere from 3 to 30 hours, it may be noted that the patient is hypotensive. This may be relative or absolute, depending upon the sphygmomanometer, the nurse, the operation, the anesthetic agent, the state of pulmonary ventilation, the capacity of the myocardium and specific reactivity of each patient. In some instances hypotension, tachycardia and other manifestations of shock are not overcome by the use of the estimated equivalent of the blood loss.

Frequently a patient's hemoglobin is reported pre-operatively as 15.6 gm.% (100%) and because there is no clinical need to verify this the blood count is not repeated. The report may be correct, or represent an abnormal hemoconcentration. In any event, during operations such as cholecystectomy there may have been moderate bleeding, possibly from the liver bed, and three hours later the patient is found to be hypotensive. At this time the surgeon recalls that at operation there was minimal blood loss. When I have rechecked such surgical records I note that there may have been a total of 40 small sponges and 20 large sponges used during operation. Unfortunately, sponges are not usually weighed in such operations, but it is obvious that the (40 with 15 cc.) small sponges probably absorbed 500 cc. to 600 cc. and the large sponges (20 with 20 cc.) about 300 to 400 cc. which represents about 1000 cc. of unsuspected blood loss.

Usually the anesthesiologist as well as members of the operating team are low in the estimate of the patient's blood loss.

Consequently, in this situation, signs of hypovolemic shock could be overcome by blood replacement of the deficit.

Persistence, of course, of bleeding from a major vessel as from slipping of a ligature is always of first consideration. We do not hesitate to bring the patient to the operating room and even place him on the table ready to re-operate. Estimates of blood volume, measurement of central venous pressures and clinical knowledge of each patient are needed in the decision to operate when the diagnosis of continued bleeding is made.

Bleeding may be due to agents, defects or states, which could be congenital or acute. Anesthetic agents such as Cyclopropane,[®] are known to provoke "oozing" presumably because of increased central venous pressure. Hypercarbia as well as transient changes in coagulation mechanisms, may also be followed by persistent oozing. When coagulation defects are suspected these can be identified within 15 to 30 minutes by the hematologist. Fibrinogenopenia, alterations in prothrombin titer and prothrombin consumption, and defects in platelets are readily discernible and obvious remedies can be provided. Knowledge of these, of course, is necessary to avoid re-operation and, if re-operation is needed, to indicate preventive measures.

It is a basic premise in the management of the postoperative patient that blood volume be restored, if needed, to a normal level. Subsequently, adjuvant therapies such as massive doses of corticosteroids, or use of vasodilators, antibiotics, Ringer's lactate, saline, plasma, mannitol, oxygen and temperature regulation can be employed as individually needed.

Technical or Theoretical?

In patients who require resection and anastomosis the reconstruction procedure may sometimes be less efficient than it appeared.

For example, the anastomosis may appear to be suitable when the patient is supine under anesthesia. However, the colon, omentum,

gravity and the erect position may change the organ inter-relationships so that subsequently the gastrojejunostomy stoma may be rotated, the afferent jejunum may be twisted or the efferent limb angulated, and there may even have been tension caused by the superior mesenteric vascular pedicle.

It is notable that Billroth recognized his error in which he ligated the middle colic artery during one of his first gastrectomies. Obviously suspicion of any such technical problem requires urgent surgery to remedy it.

After operations on the colon a malfunctioning edematous anastomotic stoma may be present or the transverse colon may be under some tension and consequently, the cecostomy which is established is not effective. This type of by-pass is not sufficient postoperatively to protect leakage which occurs at the suture line and it is wise to recognize the need to establish a diverting ascending colostomy (which probably should have been established in the first place).

If continued conservative management does not correct obstruction or malfunction then urgent reoperation must be selected at the most practicable time. No urgent surgical procedure should be overlooked in the management of any patient because it is not always possible to recognize all difficulties at the time of operation. Some problems will not be obvious for five to seven days.

THE ACUTE ABDOMEN FOLLOWING OTHER THAN GASTROINTESTINAL OPERATIONS

Gynecologic or Obstetric Procedure

In years past the abdominal surgeon did all gynecologic procedures including perineorrhaphies, cesarean sections, as well as vaginal and abdominal hysterectomies. At present, the general surgeon now sees gynecologic problems in consultation. Occasionally the curette passes through the uterus and small pieces of bowel are mingled with endometrium. In an occasional instance, the patient after hysterosalpingography or tubal insufflation may have symptoms similar to a perforated viscus.

It is now well recognized that there is no need to delay any operation — cardiac, pulmonary or gastrointestinal — when needed during pregnancy. It is also known that skill in surgical management as well as in the administration of an anesthetic agent are both significant factors in any operation done to correct an acute surgical abdomen during pregnancy in order to avoid excessive jeopardy to mother and fetus. At the same time, that the pregnancy exists or has just terminated or the fact that a gynecologic operation has

just been done should not, of themselves, eliminate the possible existence of an acute abdomen. Pain due to endometriosis, or of tenderness due to abscess or fistula due to ileitis, of bleeding due to ulcerative colitis may be unexpectedly uncovered by a careful anamnesis.

Differential diagnosis in the patient with ileus which is seen four days after a hysterectomy or a cesarean section is the same as that following any gastrointestinal operation. In these circumstances it is more probable that the long intestinal tube will be manipulated successfully for decompression and that the ileus will be overcome then for mechanical obstruction to be present which requires surgical intervention, which latter is seen more frequently after operations on the gastrointestinal tract.

Anemia and hypoproteinemia associated with blood loss at gynecologic operation as well as due to pre-existing nutritional deficiencies can exist. The frequent use of tranquilizers and other medications frequently hide a systemic defect which should have been corrected prior to the elective gynecologic operation. Such factors are not always known in the patient who has an emergency D. and C. for uterine bleeding or who needs a cesarean section for abruptio placenta, and there may consequently be problems relating to the post-operative acute abdomen which should not be treated by urgent operation.

Careful clinical evaluation, re-evaluation, examination and re-examination are essential in management of a patient who may have an acute surgical abdomen after gynecologic or obstetric operation. Not only is continuous and constant clinical study advantageous, but repeated studies of blood volume, of hemoglobin, of central venous pressure as well as abdominal x-ray examinations are vital.

Following Vascular Procedures

In any medical center today surgical consultants are confronted with an acute abdomen after open heart operation, after replacement of an occluded aorta with bifurcation graft, or following embolectomy. Most frequently, the diagnosis of ileus needs clarifi-

cation. However, there are additional possible causes for the acute abdomen following open heart surgery which can be resolved only by laparotomy such as when embolization occurs to a mesenteric artery.

Coagulation defects which cause massive bleeding can be seen after multiple transfusions and need differentiation from bleeding "stress" ulcers. However, following open heart operation or vascular grafts, or after any cardio-vascular operation, all conservative measures including large quantities of blood and additional delay to identify positively a diagnosis are often taken.

Delay is not justified in surgical correction of gastroduodenal ulcer bleeding, even if a major reason for delay is the presence of the previous operation.

Similarly, recognition is very difficult of need to resect damaged bowel following mesenteric artery embolectomy or after operations to insert a long aortic graft. Re-operation should be done in 36 to 48 hours as the one way to verify dubious viability of bowel.

Following Trauma

Signs of intra-abdominal bleeding are usually recognized as an indication for operation in a patient who has been hurt in an automobile accident.

However, the patient who has suffered a broken ankle on a ski slope and who simultaneously had an incarcerated hernia (which he manipulated as he usually did, but this time caused severe contusion of the intestine) can have a perplexing abdominal catastrophe 48 hours later.

The patient who is in shock and who has a head injury probably has an intra-abdominal rather than an intracranial cause for the shock; these types of multiple injuries are difficult to manage because an obvious head injury may overshadow the abdominal injury⁸.

Chronic cholecystitis or pancreatitis may be aggravated by repeated doses of narcotics to relieve pains of injuries and an acute exacerbation of these diseases must be differentiated from signs of trauma to liver or pancreas. It has been our experience that every patient

with trauma not only must be queried carefully and repeatedly, but also must be examined thoroughly, gently and continuously. An abbreviated or hurried examination can overlook tenderness in the right upper quadrant which the patient considers as due to his accident and which he fails to call to anyone's attention, but which the alert surgeon can recognize as due to hydrops of the gallbladder.

In the rapid maelstrom of the usual emergency unit as well as in the relative quiet of the patient's bed, the pitch-black stool may not be recognized or reported until anemia and hypotension are reported by screaming relatives.

Last spring a patient was presumed to have an acute hysteria associated with abdominal distress after an automobile accident, because x-rays and other studies were within normal limits. In this patient, however, subtotal colectomy was needed four days later, for an acute fulminating ulcerative colitis. Fortunately, this patient's physician was alert and recognized that the automobile trauma was a coincidental accelerating factor.

Another, indeed a rare, circumstance, was seen following the use of a steel rod placed to overcome scoliosis. This patient⁹ developed obstruction to the transverse duodenum. Stress ulcer and gastric ileus secondarily appeared. Urgent laparotomy was done for duodenojejunoscopy and gastrostomy. Both the rod and the plaster cast probably caused these serious symptoms due to the change in tension of the vascular pedicle as the contours of the vertebral column were altered.

Following Genitourinary Operations

Differentiation of retroperitoneal from intra-abdominal bleeding is difficult. Extravasation of blood or urine in the retroperitoneal space can be identified if the surgeon leaves a drain. However, drains do not always function nor do they drain continuously and the retroperitoneal collection can cause ileus.

In some patients manipulation, mobilization and trauma to the retroperitoneal duodenum during nephrectomy can cause pyloroduodenal obstruction with secondary gastric ileus which also can confuse the picture.

Every once in a while the general surgeon is called in consultation following the construction of ileal bladder. Usually there is an incomplete intestinal obstruction due to the presence of a partial anastomotic septum or suture-line edema. Some of these patients often are nutritionally depleted; others have received radiation therapy which can affect healing and because there are twists, turns and angles caused by replacement and retro-displacements of the viscera an occasional entero-enterostomy is needed to protect the genitourinary reconstruction.

Because of abnormal renal filtration some patients may also have unusual types of electrolyte imbalance. We used to see these often following ureteral-intestinal anastomosis.

There is much advantage to coincident appendectomy which should be done in all genitourinary and transplant procedures, whenever feasible. Recurrent abdominal pain in many patients following these large procedures is frequently confused with appendicitis. It is true that emergency appendectomy is usually not a hazard, but the need for an additional procedure should be eliminated.

The surgeon who does the renal transplant or the renal revascularization should also recognize the importance of noting the presence of cholecystitis, peptic ulcer or other diseases, in order to avoid postoperative confusion.

Following Other Procedures

Thoracic

Transthoracic vagotomy or repair of diaphragmatic hernia may be followed by acute abdominal distress. Gastric stasis has been seen frequently.

Pulmonary lobectomy and pneumonectomy are not usually followed by abdominal crises, but irritation or laceration of the phrenic nerve, or the secondary appearance of supra- or sub-diaphragmatic collections can cause hiccup, electrolyte imbalance and gastritis. Electrolyte imbalance of respiratory origin as well as dysphagia due to mediastinitis can be symptoms of an acute abdomen.

It is true that the great majority of thoracic operations have no abdominal sequelae, but

we have seen acute cholecystitis, incarceration of an inguinal hernia and pancreatitis among other causes for an acute abdomen following pulmonary lobectomy.

Extra-abdominal Procedures

An acute abdomen may follow any operation: even after hemorrhoidectomy, thyroidectomy, radical mastectomy, vein ligation and knee arthrotomy. Frequently, intervals of 18 to 48 hours elapse while the patient is given anti-nauseants, tranquilizers, narcotics and psychotherapy. Consequently, when the general surgeon is called in consultation it may require an additional 12 to 18 hours to establish a positive diagnosis and to correct imbalances.

Procedures Involving the Nervous System

Following diagnostic spinal tap, introduction of radiopaque media for a myelogram, and trephination for subdural hematomas, the general surgeon may be asked to see patients because of ileus. While this is usually spontaneously correctible, occasionally it may progress to complete mechanical obstruction in the presence of pre-existing intra-abdominal adhesions or unsuspected organic lesion.

Ileus often follows dorsal or lumbar sympathectomies. In these it is possible to overlook an acute abdomen because of the absence of pain or other reflexes.

Patients with chronic neurologic disease such as syringomyelia, or Parkinsonism may have chronic abdominal distention. It is possible that traumatic epilepsy may have an abdominal prodrome (Moore's syndrome).

Minor Procedures

Even a simple examination, manipulation or study may be followed by an acute abdomen.

Recently one of my colleagues (Dr. Leo Cass) saw a patient with an acute abdomen in whom air was present under the diaphragm. This pneumoperitoneum followed a routine pre-marital vaginal examination.

Sigmoidoscopy and barium enema are both

causes for colon perforation. These rarely occur through normal bowel but usually are seen in areas of disease such as diverticulitis or neoplastic ulceration.

In most instances, because of the location of the opening and the difficulty in closing its irregular ragged edge securely, it is necessary to establish a diversionary colostomy and to drain the area of leakage.

All types of endoscopic examinations, whether bronchoscopy or esophagoscopy, culdoscopy or cystoscopy, can be followed by an acute abdomen, some of which require an operative procedure.

Recognition of the trauma is the key to the treatment. Diagnosis is difficult after an interval of time has passed since an original trauma.

An acute abdomen has been seen following manipulation of the shoulder, following bone marrow examination of the sternum, following liver biopsy using both the Vim-Silverman and Menghini needles. It is expected as a transient episode following splenoportography and liver biopsy. It may follow use of an allergin, a drug, or after specific physical or chemical agents.

Unrecognized postoperative pelvic or retroperitoneal abscesses, which rupture, can produce an acute abdomen. Foreign bodies such as retained sponges, as well as those of the non-opaque variety which have been ingested or which have been thrust into the various canals can produce a post-procedure acute abdomen.

Conclusion

The acute surgical abdomen can be found at any time in any patient and under variable circumstances. The patient who needs a surgical procedure to correct a correctible state should have the diagnosis made, the treatment instituted with due regard to the acute state and with full knowledge of the coincidence, or direct contribution by an pre-existing condition.

References will be supplied by the Journal on request.

NON-PENETRATING ABDOMINAL TRAUMA

WITH SPECIAL REFERENCE TO

LESIONS OF THE PANCREAS

- The management and review of pancreatic injuries resultant from blunt trauma to the abdomen are presented. Three pancreatic injuries were sustained in eighty-five admitted cases of blunt trauma during a ten-year period.

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The relative frequency with which non-penetrating abdominal injury is seen by the surgeon, because of the increasing number of automobile accidents, as well as home or industrial exposure, should make him more aware of possible intra-abdominal injury. This injury may be trivial on the surface and may be masked by concomitant injuries elsewhere. Few diagnostic aids are available to make an early diagnosis except for an index of suspicion, repeated examinations, the patient's vital signs, and surgical exploration.

In penetrating injuries of the abdomen there is little doubt that a more vigorous approach and attitude is taken; therapy is usually applied sooner and more definitely. In non-penetrating injuries of the abdomen, where the pancreas is involved, these few diagnostic aids must be fully utilized. The pancreas is a retroperitoneal structure, hidden, well-protected, rarely injured, but which should be thought of as an organ that can be injured. The sequelae are grave, and management can be long and complicated. The surgical literature in recent years has many excellent articles on blunt trauma to the abdomen; the collective review by Griswold and Collier⁽⁴⁾ is most comprehensive. The pancreas in this com-

posite article was injured in the frequency of 1.4%.

A review was made of all non-penetrating injuries to the abdomen admitted in the years 1951 through 1961, inclusive, to the Delaware Division of the Wilmington Medical Center in Wilmington, Delaware. In this period there were 150,895 admissions to the Hospital and 231,285 emergencies admitted to the Emergency Room. There were 85 cases of non-penetrating injuries admitted, an incidence of but 1 in every 1,775 cases; these are summarized in Table I. In previous studies, the group of organs most commonly injured have been the solid organs, primarily the spleen, kidney, and liver. In this study the highest mortality was in the liver injuries and multiple injuries of the liver, spleen, and kidneys. The over-all mortality was 28.2%. The pancreas was injured in three individuals, a frequency rate of 3.5%. This organ was of particular interest, not only because of its infrequency of injury and the isolated nature of the injury, but because of the increased morbidity present, the late diagnosis made, and the personal management of the latter two cases to be presented.

Case No. 1

A white boy, age 7, was admitted on May 7,

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TABLE I

<i>Location</i>	<i>No.</i>	<i>Deaths</i>	<i>Mortality</i>
Spleen	30	2	6.6%
Liver	17	6	35.3%
Kidney	12	2	16.6%
Spleen and Liver	3	1	33.3%
Spleen, Liver, and Kidney	3	2	66.6%
Spleen and Kidney	3	0	0
Spleen and Retro- peritoneal Hemorrhage	1	0	0
Spleen, Liver, Stomach, and Intestine	1	0	0
Liver and Small Bowel (Duodenum 1)	2	1	50%
Liver and Kidney	2	0	0
Kidney and Small Bowel (Ileum)	1	1	100%
Retroperitoneal Hemorrhage	3	0	0
Large Bowel	1	0	0
Jejunum	1	0	0
Duodenum and Colon	1	1	100%
Ruptured Diaphragm	1	1	100%
Pancreas	2	0	0
Pancreas and Retroperitoneal Hemorrhage	1	0	0
Total	85	17	28.2%

1955. This youngster while riding his bicycle ran into a pole, striking his abdomen on the handle bar. He was brought to the Hospital several hours later because of persistent abdominal discomfort. On admission he was not in shock and was not unconscious, complained of epigastric discomfort, and had a blood pressure of 130 systolic, 65 diastolic, pulse of 120, temperature of 99.2°F., and respirations of 20. The pertinent physical findings were epigastric tenderness with diminished peristalsis. The initial blood count showed an 11.9 gm. hemoglobin with a hematocrit of 40%. The white cell count was 30,000 with a shift to the left, 82 segmented polys with 11 unsegmented polys and 7 monocytes. His urine was not remarkable except for a trace of sugar, the

urine having been taken during a glucose infusion.

He was detained because of the positive abdominal signs, even though they were minimal, and the elevated white cell count. Frequent observations followed. His physical finding improved on the following day. The white cell count decreased to 13,600, and the differential count shifted to the right. However, on the second hospital day abdominal fullness was more prominent. The blood count revealed a hemoglobin of 11.9 gm. and a white cell count of 15,400 with no definite shift. Epigastric tenderness persisted. Thus, on the third day, post-admission, x-rays were obtained. The flat plate and erect film of the abdomen revealed stepladder-like distribution of air and fluid levels in the small bowel. His temperature on this day rose to 102°F.; the pulse was 140, and the blood pressure remained relatively stable at 130 systolic, 70 diastolic. The child appeared ill on the following day when the temperature rose to 103°F. with the abdomen remaining slightly distended. Peristalsis was now absent. Hemogram revealed a 9.5 gm. hemoglobin, white cell count of 9,800 with 77 segmented polys, 15 unsegmented polys, 3 lymphocytes, and 5 monocytes. Abdominal exploration became imminent.

Exploration through a transverse upper abdominal incision revealed a greenish, cloudy fluid within the peritoneal cavity. There was approximately 400 cc. of this fluid which was aspirated and cultured. The culture showed no organisms. There were white patches over the small bowel and omentum which appeared to be digestion of the fatty tissue by pancreatic enzyme with no other findings. A drain was placed into the region of the lesser sac. The diagnosis was made of a traumatic injury to the pancreas.

The child made an uneventful recovery. The drain was removed on the seventh postoperative day; and he was discharged on May 21st, the tenth postoperative day, free of abdominal discomfort. The child remained asymptomatic and was not seen at the Hospital again until April 12, 1962, seven years later. He was seen in the Out-Patient Department,

claiming that he had been asymptomatic up until two years before this visit when he began with periodic attacks of an acute, colicky, abdominal pain, primarily epigastric with occasional vomiting. This was relieved by atropine and antacids. Abdominal examination revealed no positive findings. A cholecystogram and a gastro-intestinal series were performed, and these were within normal limits. No definite diagnosis was made. He is being followed at the present time in the Out-Patient Department.

Case No. 2

An 18-year-old, white man fell asleep at the steering wheel while driving, and his car ran into a parked vehicle. This occurred on the evening of October 20, 1957. He suffered a contusion to his right shoulder, lower chest, and abdominal wall by striking the steering wheel. He also lacerated his upper lip. Admission to the Hospital followed an initial examination and suturing of the lip in the Emergency Department. The possibility of an intra-abdominal injury was suspected. His initial vital signs showed a blood pressure of 135 systolic, 85 diastolic, pulse of 88, respirations of 20, and a temperature of 99.6°F. He was not comatose and he was not in shock, stating that he had epigastric discomfort. A blood count revealed 13.8 gm. of hemoglobin with a hematocrit of 41%. The white cell count was 12,900 with 75 segmented polys, 7 unsegmented polys, 17 lymphocytes, and 1 monocyte. The urine was unremarkable except for a two plus albumin. Abdominal examination presented right upper quadrant tenderness, with minimal rebound tenderness in the right costovertebral angle: After 48 hours' observation, with improvement of the abdominal symptoms and findings, he was discharged on October 22, 1957.

He was readmitted November 3, 1957, 11 days later, stating that five days before admission he developed epigastric pain and discomfort following the ingestion of his food. On the morning of admission his mother had noticed that his sclerae were yellow, and he stated that his urine had become darker. Examination did reveal a young, alert, white male who had icteric sclerae, a blood pressure

of 116 systolic, 70 diastolic, with a pulse of 76, normal temperature, and normal respirations. Examination revealed no positive findings other than minimal epigastric tenderness. The blood count revealed the hemoglobin to be 14.5 gm., the white cell count to be 5,500; its distribution was 69 segmented polys, 20 lymphocytes, 4 monocytes, and 1 eosinophile. A prothrombin on the following day was 100%. His urine was normal except for the presence of bile. Icteric index on November 4th was 26.5, which gradually rose by November 11th to 50.

During the period of observation, other than for a mild epigastric discomfort, the patient was asymptomatic. X-rays of the abdomen were obtained, both in the upright and supine positions, and no abnormalities could be found. An alkaline phosphatase on the fifth post-admission day was 11.5 units. Examination on November 12th revealed a mass in the right upper quadrant. This mass was a questionably distended gallbladder.

He was explored on November 13, 1957. Through a right rectus incision in the right upper quadrant, an icteric-tinged liver, enlarged to two fingerbreadths below the costal margin, was found. There was no increase in free peritoneal fluid. A distended gallbladder and a distended common bile duct with induration in the region of the head of the pancreas was found. All other structures within the abdomen were without evidence of disease. A cholecystostomy was performed and the procedure terminated.

The postoperative course was one of gradual improvement. The drains which had been placed into Morrison's pouch were removed on the third postoperative day. On the fourth postoperative day stools showed evidence of the presence of bile. The cholecystostomy tube was used for a cholangiogram, and Hypaque® was instilled into the gall bladder on November 22, 1957. Fluoroscopic study showed dye slowly passing into the duodenum with a dilated common bile duct. He was discharged on November 26, 1957, with a clamped cholecystostomy tube. Two weeks later the tube was removed, and he has remained asymptomatic to the present time.

Case No. 3

A 63-year-old colored man was injured on November 1, 1961, while performing his duties as a railroad employee. The injury occurred when he was thrown against the lever on a tamping machine, which is a mobile unit which rides on the tracks and is used for repair of the cross ties. The lever struck the right upper quadrant of the abdomen. The blow caused severe pain, and he collapsed. In the process of the fall he sustained a laceration of the chin and lower lip. He was taken to the Emergency Room of the Delaware Hospital. The lacerated lip and chin were sutured. Examination was unremarkable. The epigastric discomfort had subsided; he was discharged to return to work.

He was seen the following morning, approximately 24 hours after the injury. At this time he appeared to be shocky, cold and clammy, had a blood pressure of 100 systolic, 80 diastolic, and a pulse of 100. His major complaint was severe pain in the right side of the abdomen, stating that he was extremely thirsty and that he had vomited once early in the morning. He also mentioned that he had collapsed the evening before, had regained consciousness, but had not paid further attention to this episode. Examination following admission to the Hospital revealed marked right upper quadrant tenderness with voluntary spasm. Bowel sounds were hypo-active. The abdominal wall revealed no signs of previous surgery or scars. His laboratory studies revealed a hemoglobin of 10.7 gm., a hematocrit of 33%, a urine which was essentially normal except for a two plus albumin, a white cell count of 18,000 with 58 segmented polys, 31 unsegmented polys, 5 lymphocytes, and 6 monocytes. X-rays of the abdomen, both flat plate and erect, showed no definite abnormalities. On observation and repeated examinations that day, findings indicated that the intra-abdominal catastrophe had progressed. A repeat hemoglobin showed 88 gm. and a repeat hematocrit, 26.5%. Peristalsis was still hypo-active; the voluntary muscle spasm had become involuntary with rigidity of the abdominal wall.

He was taken to the operating room for an

exploration. Exploration through an upper midline vertical incision revealed an extensive retroperitoneal hematoma and hemorrhage and a contusion of the omentum. The hemorrhage and hematoma extended about the major portion of the transverse mesocolon, ascending colon, and hepatic flexure of the colon. There was approximately 400 cc. of blood in the peritoneal cavity, but there were no free bleeding areas visible. Thus, after aspiration of the blood, the abdomen was closed without drainage.

The Levine tube was removed in 48 hours with the return of peristalsis. Oral intake was begun in 72 hours, and flatus was passed on the fourth postoperative day.

On the sixth postoperative day, a mechanical small bowel obstruction was suspected. A flat plate and erect film confirmed this diagnosis by demonstrating small bowel distention with fluid levels. This obstruction continued; and on November 13, 1961, the tenth day postsurgery, he was returned to the operating room. The blood picture showed a red cell count of 3.59 million, hemoglobin of 12.7 gm., white cell count of 13,550, with 81 segmented polys, 15 unsegmented polys, 1 lymphocyte, 2 monocytes, and 1 eosinophile. The urea nitrogen was 42 mg./100 ml., plasma CO₂ 25 mEq./l., plasma chloride 98mEq/l., sodium 150 mEq./l., and potassium 5.6 mEq./l.

Exploration through a right rectus incision revealed the distended small bowel lying in a pool of fluid. This fluid was thin, semi-gelatinous, and light brown in color. A culture of the fluid was obtained, which later showed no growth. Approximately one liter of this fluid was present. The small bowel obstruction had occurred at the terminal ileum, approximately eight inches from the cecum. The obstruction was reduced. There was no evidence of bowel or organ rupture, nor was a pancreatic injury at this time suspected. The abdomen was drained and closed with the drainage tube brought out through a stab wound in the right lower quadrant. This drain was placed in the right gutter.

Recovery was slow but gradual; and on the third postoperative day, through the drain,

copious amounts of a light pink, very thin, clear fluid was discharged. It was at this first indication that thought was given to a possible pancreatic injury. A specimen of this fluid was sent to the laboratory. The fluid content showed a trypsin level of less than $7\frac{1}{2}$ viscosity units. A serum amylase determination showed 36 turbidity units. The drainage lessened with the patient's recovery. The drain was slowly withdrawn; and it was finally removed on the 21st of November. Throughout this time there had been no skin irritation from this fluid; the amount of pancreatic enzyme was thought to be very small. The resultant sinus tract did not close and subsequently created the need for the final surgical intervention. The blood chemistries during this period showed an elevated BUN in the range of 39 to 58 mg./100 ml. The plasma CO_2 and chlorides were both in the low range of normal, and the potassium and calcium levels were within normal range.

On November 23rd the patient became comatose and shocky. A urinary tract infection had complicated the over-all problem. The blood chemistries showed a plasma CO_2 of 11 mEq./l., a BUN of 52 mg./100 ml., chlorides of 114 mEq./l., sodium of 130 mEq./l., potassium of 3.6 mg. per 100 ml., and calcium of 8.4 mg./100 ml. The temperature was 101°F . The cultured urinary organisms were *Klebsiella aerobacter* and *Paracolon bacillus*; both were sensitive to Neomycin. The white cell count was 14,500 with a normal differential. Treatment consisted of sodium lactate and sodium chloride solution, calcium gluconate, Cortisone in the form of Prednisone, Neomycin, Furadantin, and digitalization. A gradual good response was made. The CO_2 and chloride levels were maintained by supplementary amounts of sodium lactate and chloride by the intravenous route. Sodium bicarbonate was used orally. Cortisone was gradually diminished and discontinued on December 8, 1961.

It was of interest to note the fluctuation of weight throughout his hospital course with and without the use of the anabolic agent Methyl Testosterone. A pre-injury weight of 125 pounds diminished to 105 pounds on No-

vember 20, 1961, following the advent of two surgical procedures. The maintenance of this weight was accomplished with Methyl Testosterone at a dosage of 10 mgm. three times a day. The anabolic action of Methyl Testosterone was lost when the drug was withdrawn for a two week period from December 24, 1961, through January 5, 1962. The patient's weight fell from the previous 105 pound level to $98\frac{1}{2}$ pounds. Methyl Testosterone was re-instituted with no other specific ingredient, and a gradual rise to 116 pounds was achieved before the closure of his fistulous tract to the jejunum in March of 1962.

During this period when the fistula was draining copious amounts of pancreatic secretion, he was tried on Probanthine, Ephedrine, and Atropine with no apparent change in flow; the flow averaged about 900 to 1,800 cc. per day. The skin digestion which appeared later was controlled by aluminum paste and catheter suction at the drainage site. The catheter on several occasions was discontinued in the hope that the fistula would close spontaneously; this was not realized. The flow itself was not markedly influenced by suction; at many times gravity suction was sufficient to maintain a dry skin. A perusal of the photographs will show the progressive diminution in size of the sinus tract, as well as the peritoneal concentration of dye in the region of the pancreas. There was a widespread peritoneal dissemination of the injected dye, Hyuaque®, in Figures 1 and 2. On subsequent visualization of the fistulous tract a matured sinus tract is demonstrated in Figures 3 and 4. This sinus tract was ready for surgery on March 1, 1962.

Through a transverse incision made to the right of the midline in the right upper quadrant, the pancreas was approached. The fistulous tract with its overlying skin was dissected free through a second incision. This tract was then mobilized free from the skin and dissected to its base at the site of the pancreatic leakage in the region of the head of the pancreas. The method of Lahey⁽⁷⁾ was used. This dissected, free sinus tract was then buttonholed into a loop of free jejunum which was found in the vicinity of the sinus tract. The



Figure 1.

AP and lateral x-ray films of the abdomen. Case No. 3—both Figures 1 and 2. This is early in the disease process.



Figure 2.

Hypaque injection into sinus tract with widespread peritoneal and retroperitoneal dissemination of the dye.



Figure 3.

AP and lateral x-ray films of the abdomen. Case No. 3—both Figures 3 and 4—after the sinus tract has matured.



Figure 4.

Hypaque injection into sinus tract revealing a localized fistula tract to the head of the pancreas and outline of the entire pancreatic ductal system.

anastomosis of the sinus tract to the pancreas was closed using two layers of silk. His recovery was without sequelae, a good peritoneal closure having been obtained. He was discharged on March 12, 1962. His fortified diet, Bicarbonate of Soda, and Methyl Testosterone were discontinued one month later with a return of full appetite and maintenance of weight. He returned to his former occupation as a foreman on the railroad free of discomfort, on May 14, 1962. His pre-injury weight of 125 pounds was realized on May 23, 1962. His latest examination on March 4, 1965, reveals a well individual weighing 144 pounds.

Observations

In each of these three cases the final diagnosis was not suspected. In Cases Nos. 1 and 2 the diagnosis was made on abdominal exploration. In Case No. 3 the opalescent, clear fluid suggested the diagnosis post-surgery. There was a delay of diagnosis of definite injury to the pancreas from four to eleven days following the abdominal injury. In the third case definitive treatment was instituted three days after exploratory surgery without conclusive knowledge that this organ was injured.

Wright, Prigot, and Hill⁽¹³⁾ have emphasized that considerable subcutaneous injury of the pancreas can be present despite the absence of symptoms or findings. Warren⁽¹²⁾ noted that a prominent feature of injury to the pancreas was a delay in the appearance of severe symptoms. Kinnaird⁽⁶⁾ classified these injuries into three groups: (a) simple contusion with edema, (b) hematoma or hemorrhage, and (c) laceration varying in degree from slight to complete disruption of the pancreas. Thus, depending upon the severity of the injury sustained by this organ, the symptoms might be immediate to late. Zollinger and Boles⁽¹⁴⁾, ReMine⁽¹¹⁾, and Estes, etc.⁽³⁾ concluded that the symptoms were often indefinite and obscured by associated injuries.

In each of the cases presented the usual signs of pancreatic trauma or disease were not noted: shock, epigastric agony, and collapse. In Cases Nos. 1 and 2 uneventful post-operative results were obtained. In Case No.

3 complications resulted in a mechanical small bowel obstruction and a pancreatic cutaneous fistula which was successfully anastomosed to the small bowel. In Case No. 3 the fluid loss was managed by the addition of electrolytes to supplement the diet. The content and composition of the fistula fluid did not vary from the previously reported series on the physiology of the pancreas and pancreatic fistula by Miller and Wiper⁽⁹⁾ and McCaughlin and Purcell⁽⁸⁾. They did find some diminution of the fluid from the fistula when Probanthine, Atropine, and Ephedrine were used. In this case no apparent decrease was noticed, nor was the composition or amount of the fluid apparently altered by oral ingestion. Large quantities of carbohydrate did not seem to change the fluid which exuded. A starvation diet and complete alimentary rest was also tried with no apparent success insofar as fluid being discharged from the pancreatic fistula.

In the first case, the surgical management was routine. At laparotomy the diagnosis was made and a drain was placed in the region of the lesser sac. The tract closed spontaneously following the removal of the drain with no sequelae being apparent to the present time.

In the second case the injury was recognized at the time of surgery, but a cholecystostomy was performed to deviate the biliary drainage and allow resolution of the pancreatic edema. I believe at this time, under the same circumstances, a common duct cholangiogram would have been performed. The reasoning at the time of surgery was to preserve an intact common duct for a possible second procedure. The procedure of choice would be a common duct anastomosis.

The third case was handled with some difficulty, particularly with fluid management when a renal infection became superimposed. Electrolyte loss did complicate this over-all picture but was successfully treated with restoration of fluid balance. Cortisone was used for adrenal exhaustion and antibiotics for infection. Anabolism was assisted by Methyl Testosterone. An anabolic response was definitely evident following discontinuation and re-institution of the drug. The surgical re-

pair of the fistulous tract with anastomosis to the small bowel was performed in the manner of Lahey⁽⁷⁾. To date, which is some four years following this procedure, no stricture or leakage of the anastomosis tract has been demonstrated. The fistulous tract can develop a stricture following anastomosis to the pancreas. This possibility has been reported on review of similar procedures by Cattell and Warren⁽²⁾. An alternate method of approach could be that of Bartlett and Thorlakson⁽¹⁾, that of using the stump of the fistula and anastomosing it to a single arm of jejunum by using the Roux Y principle.

Diagnosis

The final diagnosis of a pancreatic injury in mild abdominal trauma may be difficult. If the diagnosis is suspected in doubtful abdominal trauma, routine determination of blood amylase concentration may serve to intensify this suspicion⁽¹⁰⁾. Peritoneal tap in all four quadrants may be a helpful diagnostic tool. In extensive lacerations of the pancreas abdominal emergency may or may not be evident and the diagnosis will be made only at operation. The late sequela of pancreatic injury may be a hematoma or a cyst. These findings may be determined on palpation or on gastrojejunal x-ray which will show a mass in the extragastric or duodenal position.

As in the third case, the final diagnosis was made on the peritoneal drainage fluid from the abdominal drain. This diagnosis could have been considered at the time of the first operation when a massive retroperitoneal hemorrhage and hemorrhage into the omentum and transverse colon were found. As mentioned by Estes⁽³⁾, the question might properly be raised whether or not all retroperitoneal hematoma should be treated conservatively. Certainly it would seem advisable that those hematomas found at operation in the region of the pancreas or duodenum should be explored for evaluation of a laceration or rupture involving these organs. If a traumatic rupture is found, and the patient's condition warrants a more extensive procedure, resection of the traumatized pancreas should be considered and performed, as advised by Hannon and Sprafka⁽⁵⁾, instead of drainage of the region.

Summary

During a ten-year period at a general community hospital, 85 cases were admitted with blunt trauma to the abdomen involving intra-abdominal viscera. Of this number, three cases had pancreatic involvement, an incidence of 3.5%.

These three cases have been presented in detail. They have illustrated the forms of pancreatic injury: mild contusion resulting in edema and common duct obstruction; contusion resulting in pancreatitis and exudation of pancreatic enzyme within the peritoneal cavity; and severe laceration resulting in generalized peritonitis, intestinal obstruction, and fistula formation, with resulting electrolyte loss, maturation of the fistulous tract, and its implantation into the jejunum by the technique of Lahey. Results were satisfactory and without mortality.

The diagnosis was made in these cases either at exploration or postsurgery. Diagnostic aids for an earlier diagnosis were emphasized; however, late diagnosis is not uncommon.

Treatment in general was exemplified. Retroperitoneal hemorrhage in and about the region of the pancreas should alert the physician to the possible consequences. At surgery this region should be investigated further to determine the extent of the injury to the retroperitoneal structures.

Conclusions

1. Incidence is low, but trauma to the pancreas does occur even though this organ is hidden, deep-seated, and protected.
 2. The injury may be mild, resulting in edema of the pancreas, to severe, resulting in lacerations or rupture of the pancreas.
 3. The presenting signs will depend upon the severity of the injury to the pancreas. In conjunction with other visceral injury or multiple injuries, the diagnosis may be masked and only made at operation or autopsy.
 4. The diagnosis is delayed in many cases and days may elapse before sufficient signs are given to warrant exploration. The possibility of this diagnosis should be kept in mind with all epigastric injuries. Serum amy-
- (Continued on Page 52)

USE OF ALUMINUM NICOTINATE IN THE LONG-TERM REDUCTION OF SERUM CHOLESTEROL

- Current theories relative to the mechanism of action of this drug is presented with particular reference to the effects on cholesterol biosynthesis transport.

EDWARD S. MCCABE, M.D.

Although the relationship between hyperlipidemia and atherosclerosis has not yet been fully clarified, the incidence of coronary heart disease is known to be greater in individuals with hypercholesterolemia than in individuals whose levels are normal.¹ On this basis, safe, efficient and economical methods for the reduction of elevated serum cholesterol levels have been the subject of intensive research for the last decade.

Diet therapy, consisting primarily of the substitution of polyunsaturated fats for saturated fats, has met with limited success in reducing high cholesterol values. At best, a serum cholesterol reduction of 10-15% may be achieved.² Another factor to be considered is that carbohydrate intake may become excessive in patients on a low cholesterol diet. Even though serum cholesterol levels may decrease, serum triglyceride levels become elevated. These compounds may be even more directly related to the etiology of coronary artery disease than cholesterol, *per se*.³

Because of the unsatisfactory results of diet therapy, the trend in recent years has been to utilize chemotherapeutic agents which can lower phospholipids and triglycerides as well as cholesterol. Of several pharmacologic agents that we have tried over the past five year

period with variable success, some have caused only a very slight decrease in cholesterol synthesis; others have lost their effectiveness after relatively brief periods of time; one had a harmful effect on the myocardium.^{4,5}

Altschul⁶ and subsequent investigators⁷⁻¹⁰ have reported the successful reduction of serum cholesterol levels by the administration of large doses of nicotinic acid. However, treatment was accompanied by such unpleasant side effects as flushing, pruritis and gastrointestinal distress in the majority of patients. We have found that aluminum nicotinate (Nicalex, Walker Laboratories, Inc., Mount Vernon, New York), an aluminum complex of nicotinic acid, is 85% effective in lowering cholesterol values in patients with idiopathic hypercholesterolemia; unpleasant side effects are minimal.⁴

The present report deals with follow-up studies on 10 patients, some of whom have been receiving effective aluminum nicotinate therapy for as long as two and one half years. Also presented are data to show the synergistic effect on cholesterol lowering of combined aluminum nicotinate and triparanol (MER-29) therapy.

Method of Study

Aluminum nicotinate, 2-3 g. daily, was administered to a group of 10 patients with

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TABLE 1
The Cholesterol-Lowering Effect of Aluminum Nicotinate

<i>Patients*</i> (age sex)	<i>Serum Cholesterol</i> mg.% (base-line value)	<i>Aluminum</i> <i>Nicotinate</i> g./day	<i>Maximum</i> <i>Depression</i> Cholesterol mg.%	% Reduction
43 F	400	3.0	217	46
67 F	400	3.0	234	42
57 F	440	3.0	245	44
57 F	407	3.0	236	42
63 F	372	2.0	217	42
47 F	370	2.0	225	39
62 F	460	3.0	310	33
43 M	374	3.0	220	41
61 M	332	3.0	190	43
62 M	430	2.0	280	35

*All patients followed for a minimum of one year.

idiopathic hypercholesterolemia whose base cholesterol values ranged from 332-440 mg. %. The group consisted of 3 males and 7 females who ranged in age from 43 to 67 years. Hypertension was present in 6 of the females and 2 of the men had suffered previous coronaries.

After maximum cholesterol reduction was achieved by aluminum nicotinate, 4 patients were placed on a regimen of 1.5 g. aluminum nicotinate plus 250 mg. triparanol per day for two months. Earlier studies had suggested the possibility of a synergistic action between these two agents.⁴

Results

Table I shows the maximum cholesterol reduction of patients receiving aluminum nicotinate therapy averaged 40%. Maximum change was usually observed in 2-4 months after initiating therapy. The average base line dropped from about 400 m.% to a maximum average depression of 240 mg.% for rather brief periods of time.

Aluminum nicotinate was reasonably well-tolerated. There were some complaints of itching, flushing, or nausea, but none severe enough to cause discontinuance of therapy. Administration of the drug on a full stomach was stressed.

One of the patients who had suffered previous myocardial damage complained of precordial twinge and leg cramps when he was first seen. His serum cholesterol was 330 mg.%. When he was placed on 3.0 g. of aluminum nicotinate daily, serum cholesterol decreased to 203 mg.% in one month and his symptoms disappeared. When the dosage was reduced to 2.0 g. daily, reduced cholesterol levels were maintained. When no longer on the medication his previous symptoms reappeared.

During intervals in which patients received no medication, rebound was fairly rapid. One patient whose cholesterol level was reduced for about one year while on therapy, rebounded within 6 weeks after therapy was discontinued. Patients show no resistance, however, to resumption of therapy when they have been off medication for some time.

Aluminum nicotinate therapy was also effective in hypothyroid patients who were made euthyroid on thyroid extract. In these patients, cholesterol levels did not change with changes in thyroid function; however, when aluminum nicotinate therapy was initiated, elevated cholesterol levels decreased to within normal limits.

In patients with hypertension and hypercholesterolemia who responded to any type of

TABLE 2

The Synergistic Action of Aluminum Nicotinate 2-3 g./day) and Triparanol (250 mg. daily) in the Treatment of Hypercholesterolemia

<i>Patients</i>	<i>Serum Cholesterol</i>	<i>Minimal Serum</i>	<i>Minimal Serum</i>	<i>%</i>
	<i>mg.%</i> <i>(base-line value)</i>	<i>Cholesterol</i> <i>Achieved with</i> <i>Aluminum Nicotinate</i>	<i>Cholesterol</i> <i>Achieved with</i> <i>Combined Therapy</i>	
43 M	374	220	159	58
62 F	460	310	190	60
43 F	400	217	180	55
62 M	430	280	230	47

hypertensive medication, the cholesterol lowering effect of aluminum nicotinate was facilitated. Although good control of diabetes does not mean concurrent low cholesterol values, the well-controlled diabetic responds readily to nicotinic acid therapy.

In the 4 patients who received combined aluminum nicotinate and triparanol therapy daily for 2 months, the synergistic action of these drugs augmented the reduction of cholesterol levels to 50% below the base line without any serious side effects. (Table 2). No untoward hematologic reactions were noted. Slit lamp examinations were not performed but there were no ophthalmologic complaints. MER 29 has, for the present, been recalled from the market, perhaps prematurely.

Discussion

The mechanism by which nicotinic acid or its analogue, aluminum nicotinate, alters serum cholesterol, phospholipids and triglycerides remains obscure. Although many factors have been implicated, its use remains empiric. It is quite clear that the cholesterol lowering effect of nicotinic acid is unrelated to its vitamin effect, cutaneous vasodilation, production of anorexia, increased excretion of sterols and bile acids in the bile or competition for methyl groups in cholesterol synthesis.⁸

There is definite evidence that the admin-

istration of nicotinic acid favorably changes the beta-lipoprotein and alpha-lipoprotein fractions. Total lipids, triglycerides and esterified cholesterol decrease along with serum cholesterol values. Phospholipids are less markedly reduced. Nicotinic acid apparently effects the lipid transport system as well as inhibiting lipid biosynthesis, particularly cholesterol; distribution of cholesterol and other lipids between vascular and cellular components is also altered.

Exactly how this is accomplished has not yet been fully clarified. One theory states that nicotinic acid is a competitor for acetyl coenzyme A.¹¹ Because of the action of nicotinic acid, the acetate radical is more apt to be converted into carbon dioxide causing decreased production of cholesterol and fatty acids. Another theory proposed that competition for glycine may impair cholesterol synthesis and thereby lower serum cholesterol values. Nicotinuric acid is formed when nicotinic acid is coupled with glycine.^{4,5,12,13} When administered in large doses, nicotinuric acid does not, of itself, lower cholesterol. If any decrease results, it may be due to conversion of nicotinic acid. This conjugation with glycine may be the key factor; it may also be responsible for the impairment of the bromsulfalein test when large doses of nicotinamide are administered.

Taurine conjugation may be an effective means of cholesterol excretion for taurine-conjugated bile acids are increased when glycine

availability is decreased.¹² Glycine-conjugated bile acids are concomitantly decreased. Resistance or susceptibility to atherosclerosis seems to be correlated with the production of taurocholic and glycocholic acids since decreased susceptibility has been observed in those species with low glycocholic acid values.

Another hypothesis for the effectiveness of nicotinic acid therapy is based on a possible anticoagulant property due to the liberation of heparin or its effect on lipoprotein lipase.^{14,15} Plasma fibrinolytic activity is low when elevated levels of cholesterol and triglycerides are present; nicotinic acid tends to enhance fibrinolytic activity.

A new approach that is very interesting is the use of Atromid® or chlorphenyl isobutyric acid in the so called lipemic diabetic. It acts to lower neutral fat even more so than cholesterol. It may work by interfering with albumen binding of thyroxin thus increasing bile acid excretion.

Nicotinic acid apparently does not block cholesterol synthesis as late as the squalene level; desmosterol does not appear in the plasma of patients undergoing nicotinic acid therapy. It has been found, however, in the serum of patients receiving triparanol.¹⁸

Summary

Aluminum nicotinate, 3.0 g. daily, is effective in reducing idiopathic hypercholesterolemia 30-40% below initial base line values with a minimum of side effects. When medications stopped, rebound occurs, but patients show no resistance when therapy is restarted. When aluminum nicotinate therapy is combined with 250 mg. triparanol daily, the syn-

ergistic action of these drugs augments the reduction of the hypercholesterolemia to 50% below base line values without the presence of any serious side effects. Current theories regarding the mechanism of action of these drugs are discussed particularly with reference to effects on cholesterol biosynthesis and lipid transport.

NON-PENETRATING ABDOMINAL TRAUMA

(Continued from Page 48)

lase determinations and abdominal peritoneal punctures can be used to establish an earlier diagnosis.

5. Persistent epigastric pain after questionable mild abdominal trauma should suggest the possibility of a pancreatic injury. Diligent, close observation with repeated examinations will indicate the diagnosis.

6. Retroperitoneal hemorrhage found in the region of the duodenum and pancreas should be explored further to determine the extensiveness of the trauma. Resection of the pancreas, if warranted, instead of drainage, should be considered.

7. In edema of the pancreas with secondary common duct obstruction, drainage of the biliary tract system is necessary. With subsidence of the edema, the biliary tract system may be reconstituted.

8. In severe cases a pseudocyst may result. If drainage is instituted, a pancreatic fistula may form.

9. The fistulous tract may be successfully handled surgically. This tract may be anastomosed to the bowel. Until this anastomosis is made, the following factors must be considered: weight control and maturation of the fistulous tract.

References will be supplied by the Journal on request.

References will be supplied by the Journal on request.

MEMBERS SOLICITED FOR THE DAMA

The Delaware Association of Medical Assistants has been approved by the AMA and your State Society. It is non-profit and is prohibited by its By-Laws from becoming a trade union or collective bargaining agency. The objectives of the DAMA are to inspire members to render more efficient service to the profession and the public they serve; to cooperate with the medical profession by improving public relations; and to render educational services for the self improvement of its members.

All personnel employed by a member of the AMA are invited to join. Physicians are requested to have interested employees contact Mrs. Isabelle T. Campbell, Membership Chairman, PO 4-9317, and ask for a membership application form.

COMMUNITY SERVICES AVAILABLE TO THE PERSON WITH AN ALCOHOL PROBLEM

- This article identifies some of the community resources available to assist in the treatment of the person with an alcohol problem. It emphasizes the importance of coordination and effective utilization of existing services. Physicians, in order to provide good treatment, must be concerned with the social and environmental forces that affect health.

DANIEL LIEBERMAN, M.D.

Information coming to us indicates that individuals with alcohol problems are increasing in number. This in spite of significant increases in the number of community agencies, clinics, hospitals, and medical and other professional personnel who have concerned themselves with this problem. Reports of successful treatment range from 3% to 85%. Of course, criteria for successful treatment vary from one study to another. Hypotheses pertaining to the basic cause of the alcohol problem include sociocultural pressures, metabolic abnormalities, brain damage, endocrine dysfunction, and psychiatric disorders of various types and degrees. It is evident that we are dealing with a complex set of phenomena and that all persons with alcohol problems do *not* suffer from the same illness. The one thing they have in common is that drinking alcohol is contraindicated for them.

Our existing and professional resources are in a position to confront more people with an alcohol problem if we are willing to think through our roles more carefully and modify our approach as necessary. Most physicians, including psychiatrists, find that the patient with an alcohol problem is a poor treatment risk. Broken appointments and failure to adhere to the treatment program occur frequently. And yet the physician in his office practice sees more of these patients than many

of us realize. They usually present themselves with some physical complaints — symptoms referable to a condition of gastritis, hepatitis, neuritis, dermatitis, or malnutrition. In the evaluation and treatment of the physical disorder, the physician has the opportunity to encourage the patient to talk about what alcohol intake means to him, his relations with his family, attitude toward his job, his aspirations and his frustrations. He can assist the patient to think through and express his doubts and fears. Along with active treatment aimed at restoring nutritional balance and correcting the physical condition, supportive psychotherapy can be introduced. It is often of value to bring other members of the family into the therapeutic situation to clarify treatment plans and to minimize destructive and antitherapeutic forces that may have been established as a result of the pathological pattern of communication among the family members.

Occasionally you will sense that the patient with the alcohol problem in his restlessness, his tension, his estrangement, uses alcohol as something to approach the feeling of joy and love of a religious experience, without knowing specifically that this is what he seeks. This can occur in church or non-church members. The inspirational support of a skilled clergyman may serve as a strong therapeutic force for this patient. A mutually helping relationship between medical doctors and members of the clergy can well form the nucleus of a

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concerted attack on the problem. Most people who are troubled see their clergyman first. As clergymen become more sophisticated in working with people in trouble, they will use the physician as a consultant and will know when it is appropriate to refer the troubled person to the physician. On the other hand, the physician, in selected cases, can call upon the church and its healing powers to great advantage.

We have had some experience in using LSD as a form of therapy in patients with alcohol problems at a state mental hospital in the west. Follow-up studies indicate a degree of improvement and recovery that is gratifying. For those patients where the treatment was successful, the common characteristic elicited was that there was a feeling of "oneness with the world," "closeness to God," "love and compassion for their fellowman," and a high degree of self-confidence and a feeling that they now had a better understanding of life. Many of these statements approach the reaction one gets with an intensive religious experience and one cannot help but conjecture that this may be the sort of thing the patient was unconsciously seeking in alcohol. If this is true for a large number of patients, we can readily see where sophisticated and clinically oriented clergymen can be of assistance in helping these people to achieve a religious experience in a more complete and natural way. To some extent, the experience of some individuals joining Alcoholics Anonymous (AA) is similar.

Often the physician will see a patient in acute distress because of excessive alcohol intake and will consider hospitalization as necessary for the most effective treatment. While some hospitals may not be prepared to accept patients in this condition, by far the large number of general hospitals should have facilities to carry out the relatively simple treatment of patients in this condition. The use of appropriate sedatives, intravenous fluids, high dosages of vitamins, and other supportive measures will assist in reversing the acute toxic state and overcoming withdrawal symptoms including delirium tremens. Even if delirium tremens or hallucinosis develop, rapid recovery can occur in the hospital with intensive treat-

ment. In almost every case, treatment must be introduced to restore nutritional balance, and in the majority of cases specific treatment will have to be instituted for the various physical disorders that have resulted from excessive and prolonged alcohol intake.

The American Hospital Association's Board of Trustees in 1957 approved a statement saying that general hospitals should develop a program for the treatment of persons with alcohol problems with the admission being based upon the requirements of the patient for hospital treatment. Since that statement was issued many general hospitals have cautiously moved in that direction, but for the movement to be complete and successful, the medical profession must indicate its support for such a program. In 1956 a resolution passed by the American Medical Association's House of Delegates indicated that a patient requiring hospitalization because of problems arising from excessive alcohol intake is qualified for admission to the general hospital when such admission is requested by the patient. The statement included some reservations indicating that each case must be evaluated by the attending physician as well as hospital personnel before admission is acceptable. We believe that the statement might be modified to give it more strength because there is no suitable alternative to hospitalization for patients requiring this type of treatment. Certainly most jails and prisons are not equipped to give intensive medical treatment. Occasionally, when circumstances are appropriate, the physician may be able to treat the patient in his home if adequate nursing supervision is available.

State mental hospitals can and should be prepared to treat this condition, and sometimes it is the only hospital resource in the community available for this purpose. The fact that this patient may be entering a state mental hospital for treatment should not prevent the attending physician from maintaining contact with the patient, participating in his treatment program, and otherwise follow through in the same manner as he would the patient that he sends to the community general hospital.

The state mental hospital, as well as certain private psychiatric hospitals, not only may serve as a treatment resource for the patient with acute alcoholism, but can serve to initiate a program for long-term treatment which must take place following hospitalization. First, the patient must be restored to nutritional balance; his various physical ailments treated; a regular pattern of living established with three meals a day and a full night's sleep; have the opportunity to talk with various members of the clinical staff, including chaplains, social workers, psychologists, psychiatrists and nurses; have the opportunity to interact and exchange information and ideas with other patients as well as members of the staff; take time for introspection; arrange his affairs in preparation for returning home; and receive information concerning the various helping resources that are available to him, including the establishment of contact with those community facilities which may assist him. As soon as possible after admission the patient should participate in some constructive activity which strengthens his feelings of self-esteem and responsibility.

The period of hospitalization should be no longer than is necessary to accomplish what we have just discussed. This usually can be done within 30 days' time. The main treatment for the underlying disorder in almost all cases can and should take place outside of a hospital setting. The treatment should be medically directed, but the physician will require in most cases various community resources to assist in the rehabilitation program.

Out-patient clinics are a major resource for continuous treatment. It is when the patient is again feeling well that he is likely to drop out of treatment and this is why it is important for out-patient treatment to be started immediately after discharge from the hospital. It is in the immediate post-alcoholic state that the patient's feelings of remorse and guilt are manifest and it is at that time that he is most likely to agree to a treatment program, and it is at that time that close relationships must be established with him. There are community clinics designated specifically for the treatment of the patient with an alco-

hol problem. These clinics vary in their medical approach, depending upon the orientation of the medical director. By far, the larger number of patients with alcohol problems are seen in mental health clinics and in out-patient departments of general hospitals. These have a certain advantage in that the focus is less likely to be on the alcohol and more likely to consider the patient as a total individual and a social entity. One of the weaknesses of all of these clinics is that the patient is usually exposed to an entirely new set of professional personnel and whatever relationship he had established with his previous therapist is lost. Wherever possible, the physician who begins the treatment process with the patient should continue on through all phases of his treatment.

In those instances where the psychiatric disorder is so profound that it is unlikely that the patient can return to useful work, a day hospital program may be indicated. In a few instances a night hospital program is necessary as a transitional mode of treatment.

The National Council on Alcoholism was founded in 1944 and functions as a national voluntary health agency. It conducts a national campaign of public education, including an annual alcoholism information week, which happens to be this week. It is designed to arouse interest in the problem of alcoholism and to disseminate factual information. It publishes and distributes literature for professional and lay groups, it maintains a reference library and conducts and stimulates research. There are approximately 75 local committees having an affiliation with the National Council on Alcoholism. These local groups provide information services and act to mobilize local resources and to stimulate the development of new ones.

Alcoholics Anonymous (AA) was founded in 1935 and continues as an important resource in assisting persons with an alcohol problem. It serves as a source of information and insight for many people. It is not necessarily a substitute for medical treatment, and medical treatment may continue concurrently with the participation of the patient in AA. These groups are widely available in the

United States as well as in foreign countries.

Al-Anon family groups are a fellowship of wives, husbands, relatives, and friends of AA and people with alcohol problems generally. Although not a part of AA, Al-Anon works closely with it.

Because the employee with an alcohol problem presents a serious loss to industry by virtue of his loss of efficiency, absenteeism and increased injury rate, private businesses have organized and support a growing number of treatment centers. Some companies operate rehabilitation programs designed to recognize and treat their own employees with alcohol problems. Others support treatment centers jointly. An example of this is the clinic for alcoholism at the NYU-Bellevue Medical Center and the Chicago Committee on Alcoholism.

The majority of persons with an alcohol problem do not voluntarily seek medical assistance. Medical assistance is usually sought when a person requires relief from pain and suffering or otherwise feels that things are not right with him and he need medical help. Most persons with alcohol problems use the alcohol as a relief from their psychic pain and suffering, and in spite of their deep suspicion that this is no solution, it suffices for the moment so that with the passage of time the habit pattern becomes more and more deeply ingrained.

Some of these persons in the course of their social decline and degradation become involved with law enforcement agencies, and the first opportunity for treatment and rehabilitation may be in a correctional facility. Unfortunately, very few jails and prisons have active alcohol rehabilitation programs, but there are some. As we modify our concept of the correctional system to that of rehabilitation rather than retribution, it becomes more logical that treatment programs be carried out in correctional facilities. Moderate degrees of success have been reported from various prison farms and rehabilitation programs under the jurisdiction of correctional systems. The breakdown in sustained rehabilitation often occurs after the person has left the residential center and fails to maintain his improvement

by not becoming involved in the appropriate community programs.

Voluntary organizations have attempted to fill the gap between fulltime supervised residential living and completely independent living through the establishment of half-way houses and other types of living-working arrangements for persons with alcohol problems. The Salvation Army, various religious organizations, and the Volunteers of America have supported such activities. It is our belief that therapeutic living arrangements can and should be available in these facilities as needed. To as great an extent as possible paid staff in the facility should consist of former residents who have been able to overcome the alcohol problem and can serve as a source of inspiration and guidance to the newcomers. These programs are apt to be more reality-oriented than a long-term treatment program within a hospital and are much less expensive. It imposes upon the patient a greater degree of responsibility and exposes him to normal stresses while at the same time protecting him from the more profound stresses which existed in his previous living situation.

Not only are restorative services available in the community but there is a beginning attempt to establish preventative services. Information and education programs which reach large groups of people, including schools, civic organizations and various professional groups constitute a form of health promotion as well as secondary prevention through encouraging early diagnosis and prompt treatment. Alcohol education in the schools presents the facts about alcohol, its properties, uses and effects when ingested. A course of this nature is required in the schools of all 50 states and constitutes a form of health promotion. Another type of education is that directed toward different audiences where it is important for them to understand that the individual with an alcohol problem, has an illness. The hope here is that through early recognition of the problem early treatment will not be delayed. Too often the illness is concealed by friends, family or employer by minimizing or denying the existence of a problem. This allows the illness to progress to a

point where treatment is much more difficult. The most effective educational programs are those in which meetings are held with certain groups of professional people such as judges, attorneys, parole officers, clergymen, and physicians with the program content geared to their professional competence.

Working against preventative services is the swift movement of social change and urbanization which seem to predispose to psychiatric disorders. Some steps are being taken to meet the many urban problems of our time. Attempts are being made, clumsy as they may be, to improve the outlook of the underprivileged. The traditional agencies of our urban scene, such as welfare, redevelopment, and housing, are being reviewed. We are in an early stage of total health planning and planners of community services are meeting together throughout the country. A real danger is the development of rigid and separate services growing in our towns and cities to the extent that we may lose sight of the people we seek to serve. The planners must look to the existing resources in developing comprehensive and coordinated services, and help to make our present efforts more effective. The physician must concern himself with community programs in order to maximize the treatment potential for all sick patients. In developing such a community comprehensive program, we may have to cut across political subdivisions, agencies, disciplines, and departments. We may need to utilize federal, state, local, and private personnel and financial assistance.

In planning we must utilize our understand-

ing of the disease process; every disease has an onset and various life cycles with ultimate arrest, recovery, chronicity or death. The aim of a comprehensive program is to provide the services all during the continuum of the disease, including the use of in-patient treatment, partial hospitalization, out-patient treatment, half-way houses, rehabilitative services, etc.

Since people in trouble are most likely to go to their clergymen and general physicians, the established community treatment and rehabilitative facilities must be known and used by these people.

It is a cause for concern that in our existing facilities and programs the poor are not always reached. It is equally true that many of our more affluent people are not reached. In this search to provide comprehensive services for all people requiring them, it is possible that some of our professions will undergo and our organizations be flexible enough to respond to the demands of a new urban world. We will find ourselves concerned with the issues of housing, city planning, transportation, education, and employment as they affect the total health of the Nation. The psychiatric disorders, including alcohol problems, are not amenable to primary prevention at this time. It is for this reason especially that physicians must consider the implications of secondary prevention through effective utilization of existing community resources. We have a responsibility to participate in planning for comprehensive integrated, and coordinated health and welfare services. We have a responsibility to orient medical students in these constructive directions.

SPEAK SOFTLY AND CARRY A LONG ROD

If you really expect to catch any fish on your rod—speak softly. Fish have an exceptionally keen sense of hearing, particularly in the lower ranges. Many a fisherman will swear that not only the splash of an oar but even a whisper is enough to send a previously unsuspecting fish off into the depths. Hearing studies of fish came up with this summary: Catfish hear the highest tones; minnows have a much lower limit, but have an acuteness of hearing for a weak whistle sound exceeding that of a man submerged in a large tank. Man perceives as sound those vibrations ranging in frequency from 20-20,000 cycles per second. For most species of fish the keenest hearing lies in the 300-800 cps range with the highest total limit below 3000 cps. *Eye, Ear, Nose and Throat Monthly; Shering Bulletin*



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



THE RENEWAL OF PRESCRIPTION ORDERS

The potential for good and harm inherent in today's complex therapeutic agents demands proper control measures. When therapeutic agents were less important in patient treatment, the matter of renewing prescription orders developed a relatively regular pattern. Today, much greater responsibility resides with the physician and the pharmacist so that the patient's best interest is served. Unlimited dosing with any medication may produce irreparable harm. And long-term toxicity is not uncommon with many of the newer medications.

In addition to the professional responsibility involved in the renewing of a prescription order, there is a legal requirement which is imposed upon the physician and the pharmacist. The Federal Food, Drug and Cosmetic Act provides that a drug bearing the legend "Caution—Federal Law Prohibits Dispensing without Prescription" may only be dispensed as specifically authorized by the physician. Since the original medication prescribed by the physician reflects the result of his diagnosis and considered opinion as to the patient's needs, the physician should also know the amount and length of time that the medication will be used. The drugs included in this category are almost all of those commonly prescribed—from digitoxin to Phenu-rone, including the antibiotics, the thiazides and all of the newer therapeutic agents.

A burden is placed on the physician and the pharmacist to see to it that the patient's legitimate medication requirements are met with minimum inconvenience and proper appreciation and respect for the value of the therapy. Renewal orders of prescriptions may be processed in two days. First the physician can specifically indicate his renewal instructions when he writes the original order. These

include the authorization of a fixed number of renewals or renewal for a specific period of time, or an indication that no renewals of the prescription should be made by the pharmacist. These instructions will assure that the physician's intent is clear and that the patient will receive the medication without interruption. When the physician fails to make any notation the pharmacist is in a difficult position when the patient seeks to have a prescription renewed.

In this case, the pharmacist must resort to the second alternative and call the physician for his oral authorization to renew the prescription. Many physicians are disturbed by the increasing number of telephone calls that they receive from pharmacists. Occasionally they have even refused to acknowledge or return such calls. This practice is not in the patient's interest. The procedure which the pharmacist follows is in the patient's best interest and required by federal law. It insures that the physician will be completely informed about his patient's medication usage.

In addition, there is the matter of professional liability. Court cases have been decided in favor of patients when proper care and procedures were not followed by physician or pharmacist. The failure of the physician to specify renewal instructions can also cause patient dissatisfaction and create an unfavorable impression of the health professions.

Under the law, only the physician has the definite responsibility for determining whether a prescription order should be renewed. This responsibility can not be assumed by his office nurse or receptionist. Asking the patients to communicate renewal instructions makes even

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President's Page

ACTION IS NECESSARY TO IMPLEMENT THE NEW PROGRAMS

Evaluation of our whole chaotic financial program supplementing hospital operation becomes important. Redistribution on a satisfactory basis becomes a matter of great concern not only for the hospitals, the Department of Welfare and the community at large, but for the physicians themselves.

The implications for the next five years of Title XIX of the Social Security Act—as created by the 1965 amendments—call for more attention than they have received. In a very real sense Title XIX is related to the existing program of Medical Assistance for the Aged.

The MAA program currently pays hospitals for inpatient and outpatient services, pays for home care by visiting and public health nurses and for drugs. Other services are under consideration to make MAA comparable to Old Age Assistance Medical Care, which provides the services mentioned plus those of physicians, dentists, optometrists and opticians.

The advent of Medicare under the new Title XVIII of the Social Security Act should reduce the payments made under both the Old Age Assistance Medical and Medical Assistance for the Aged programs. Nevertheless, these programs should be retained to supplement Medicare which is not, as we know, an inclusive program for the truly indigent. For the destitute aged continuation of OAA Medical Care is a necessity. The medically-indigent aged need MAA.

Under Title XIX the states must broaden their programs to include the needy and medically needy under 65—including those under 21—if MAA and OAA Medical are to

be sustained with matching federal funds after 1969. Beginning July 1, 1967 any programs under Title XIX must include inpatient hospital services, outpatient hospital services, laboratory and x-ray services, skilled nursing home services for persons over 21 and physicians' services. It is apparent that some of the required services are covered under Medical Assistance for the Aged and some not required under the federal law are also included.

Whatever is included in the Medical Assistance for the Aged program must also be included in other categories. Not only is it mandatory for the broadened programs to meet the five basic requirements outlined above, but also it is necessary to meet, for all groups, whatever will be offered to the medically indigent aged. Whatever is added, adds to the cost.

This poses an interesting question for hospitals, doctors, the legislature and the Governor. Development of programs to conform with Medical Assistance for the Aged is required by December 31, 1969 if federal matching funds in MAA are to continue thereafter. Indeed, state action under Title XIX is required by that date if federal matching funds for any medical assistance are to be obtained thereafter. It is also required in the federal law that after 1970 programs be further extended or the Secretary of Health, Education and Welfare has the authority to withdraw federal financial help.

A. M. Gekret

Hobbies

BEEKEEPING

DEWEY A. NELSON, M.D.

The basic methods of handling bees are easily learned, but it takes many years to become expert. I became interested in bees about four years ago, and there is seldom a session of handling them that does not yield a new bit of information, or raise a question that is difficult to answer. Though some beekeeping duties are routine, and though extracting the honey can be tiring, upon tasting the first honey of the year, produced by my own bees, I'm always convinced that it is indeed a good hobby.

Though bees and new hive equipment are available, a quick and less expensive way of obtaining mature colonies is to purchase them from individuals who have given them up for one reason or another. These bees should always be inspected by the state bee inspector to make sure that foul brood or other diseases are absent. After having between two and five colonies, I've decided that three colonies are ideal. These will produce locally about 300 pounds of honey (100 quarts), so one should have friends who like honey or some place where it can be sold. Home produced honey is in demand.

The most valuable lesson one learns is to consider the colony of the animal being tended, rather than each separate bee. There is a remarkable division of labor between the queen, drones and workers. These insects have a peculiar mode of inheritance. The queen and workers are both female, produced from fertilized eggs, but the workers are sterile. The drones are male, and are produced from unfertilized eggs. The queen can selectively lay a drone egg or a female worker



egg, depending upon whether she allows a sperm to meet the egg in her oviduct. When she comes to a large drone cell in the comb, she can drop in an unfertile egg, and she lays numerous male eggs when she is to swarm so her daughter will have a good supply of males with which to mate. The queen is really an egg-laying machine and she can lay 1500 eggs a day during several months. The drones only crawl around the hive, eat honey and await their opportunity to fertilize the queen during her mating flight. With the onset of cool weather they are pushed outside to starve, and the two or three who mate with the queen are eviscerated during the process of sperm storage in her body. This shows that there are at least two reasons for being grateful for being a male *Homo sapiens* rather than a drone *Apis mellifera*. The workers proceed through a number of jobs as they mature: nursing, cleaning, producing wax, fanning to cool the hive, guarding the front entrance, scouting and finally gathering nectar. They live about six weeks and usually die on the wing.

In the photograph, I am holding a frame (comb) of brood (larvae) from a young colony. This colony was formed by taking several hundred eggs from a nearby colony, along with several thousand worker bees. Ten eggs were selected by the workers by some mysterious process, and fed royal jelly. In

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Editorials

PUBLIC SERVICE DRUGS

Since the Senator with the coon-skin cap found the pharmaceutical industry such a good political whipping boy, the industry has been subjected to much abusive criticism from many sources. Mindful of the fact that there may be an occasional skeleton in everyone's closet, we have steadfastly supported the pharmaceutical industry in general. The excellent medical care we are able to give our patients in 1966 is in no small part due to constant research and development within the pharmaceutical industry. Research work at Eli Lilly and Company has established the immunologic principles for pre-exposure immunization against rabies in high risk groups. Lilly has marketed a product for this purpose in an economical manner.

Public service drugs are produced by all major pharmaceutical manufacturers. This class of drugs is distinguished by high production costs, limited market potential, little or no profit or even loss, and extremely high value as therapeutic agents in spite of usage on comparatively rare occasions.

Again, congratulations to the pharmaceutical industry.

IS THE ELECTROCARDIOGRAM NO LONGER OF VALUE?

During a post-graduate course in New York in late 1965, reported in *Medical World News* (Jan. 14, 1966), Dr. F. Mason Sones, an outstandingly qualified physician-scientist of the Cleveland Clinic, stated that on the basis of the electrocardiogram (ECG) and clinical findings, over a third of a series of 1000 patients recently diagnosed as having coronary artery disease were found to have perfectly normal coronary arteries by coronary cine-angiography. He urges the wider use of this modality which, in proper hands, he claims to be an extremely low-risk technic. He stated—jokingly perhaps—that the electrocardiograph machine should be consigned to the Smithsonian Institute.

The outstanding case cited by Dr. Sones was that of a woman with chest pain clinically diagnosed as angina because of the responses

to nitroglycerine and ECG changes. Five years before her coronary cine-angiogram was found to be normal she had had an operation on her pericardium in an attempt to increase the blood supply to her heart; two years later internal mammary artery ligation was performed; six months before the truth was discovered her thyroid had been destroyed by three large doses of radioactive iodine. Dr. Sones admits that this is an extreme case of mismanagement but claims that 366 of 1000 consecutive patients were in a similar category.

In his remarks, Dr. Sones is making a mistake in logic that might well be employed by a politician but which should be strictly avoided by a scientist. He is comparing "Technic A" as performed by a few selected and highly qualified investigators with "Technic B," a common everyday procedure performed by thousands of physicians, some of them qualified. He suggests that we pay less attention to "Technic B" and more to "Technic A." Briefly, he is condemning a procedure rather than those who use it improperly.

Might it not be better to place more emphasis on the proper training of physicians in basic clinical medicine and electrocardiography? It would indeed be a grim outlook to think of the unqualified physicians now interpreting electrocardiograms changing to coronary cine-angiography.

CHOLESTEROL

Elsewhere in this issue of the Journal is an article by Dr. McCabe regarding the use of aluminum nicotinate in reducing the amount of serum cholesterol. This subject is of timely interest and his article deserves reading by all interested in this phase of clinical medicine. The reader should approach his conclusions, however, with considerable restraint. In the words of the author, "the relationship between hyperlipidemia and atherosclerosis has not yet been fully clarified." Furthermore, let us not forget the fairly recent fiasco with an overly publicized drug intended for the same purpose.

In Brief

New AEC Proposal

The Atomic Energy Commission proposes to withdraw from the routine production and distribution of 19 radioisotopes, several of which are used in medicine. Future availability will be through commercial channels. They are:

<i>Antimony-124</i>	<i>Potassium-42</i>	<i>Lanthanum-140</i>	<i>Cadmium-115</i>
<i>Arsenic-76</i>	<i>Silver-110m</i>	<i>Mercury-197</i>	<i>Cadmium-115m</i>
<i>Arsenic-77</i>	<i>Sodium-24</i>	<i>Mercury-203</i>	<i>Copper-64</i>
<i>Bromine-82</i>	<i>Sulfur-35-P-1</i>	<i>Molybdenum-99</i>	<i>Gold-198</i>
<i>Cadmium-109</i>		<i>Phosphorous-32</i>	<i>Gold-199</i>

These radioisotopes are now produced and distributed through the AEC's Oak Ridge National Laboratory, operated for the Commission by Union Carbide Corp. They are used principally in research and medical diagnosis or therapy.

Boy Or Girl? The Electronic Stethoscope

The cold stethoscope on the patient's back may soon become a thing of the past. A new electronic stethoscope will make it possible for the doctor to clearly hear heart and breath sounds through clothing. It may someday permit obstetricians to predict accurately the sex of unborn children. Tested extensively at New York Mt. Sinai Hospital, it was found to pick up the heart beat of a month-old fetus. Since the theory exists that there is a difference in the heartbeat of a male and female fetus that is too slight to detect with an ordinary stethoscope, it may be feasible to test the validity of this thesis and tell an expectant mother whether or not she should order a pink or blue layette.

Polio Record

Poliomyelitis established a record low during the past year in striking only 59 times in the United States. The 1965 incidence nearly halved the 116 cases registered in 1964, which was the previous low year for polio. The National Foundation has estimated that vaccines have prevented an average of 30,000 cases of all types of polio per year.

Flu Facts

December diagnosis of influenza dropped drastically to 50.8% of the average month. This abnormal decrease was possibly due to the mild weather conditions during that month. In addition, the high rate of prophylactic shots given earlier in the year may be lessening the severity of a predicted heavy flu season.

Alcoholism

Alcoholism—often described as “the nation's number 1 health problem”—will be attacked more broadly by the AMA. Because of the increase in incidence within the American family—which may involve as many as 40 million alcoholics and their families—the AMA will enlarge its alcoholism program.

Uterine Cancer And The Poor

Evidence as released by the PHS and the University of Louisville has been found supporting a long-held belief that the risk of uterine cervical cancer is considerably higher among the poor. Two findings that stand out in this study are: 1.) the number of new cases of invasive cervical

cancer for each 100,000 women ranged from 25 for the highest socio-economic group to 63 for the lowest income group. 2.) Among women living outside the city limits, (and upper income area) the number of cases was about 27 per 100,000. It was suggested that priority should be given to the cytologic examination of underprivileged women.

Sussex Wheels For The Handicapped

This is a transportation service to assist the handicapped residents of Sussex County to get medical care and rehabilitation services. Individuals will be picked up at their homes and taken to any point in the state. All trips will be subject to approval by the servicing agency. Eligible are handicapped individuals living in Sussex County who can walk or who are confined to a wheel chair. Children under 16 years of age must be accompanied by a responsible adult. Trips will be made Monday through Friday, not including holidays, between the hours of 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:00 p.m. Request for service should be made at least 24 hours in advance by calling 931-9231, Monday through Friday, same hours. The fees per round trip for the handicapped person are \$1.00 within Sussex County, \$4.00 to points in Kent County, \$8.00 to points in New Castle County. Each individual family will be expected to pay the fee if possible, or it will be charged to the referring agency, institution or service club. No handicapped individual will be refused transportation because of inability to pay. The project is sponsored by the Coordinating Council for the Handicapped Child of Delaware, Inc., but will serve the handicapped of all ages. The project is directed by the Superintendent of the Hospital for the Mentally Retarded.

AGS Grants

Renewal of three \$1800 grants to encourage resident physicians to study the medical problems of the aging was announced by the American Geriatrics Society. Made possible by Lederle Laboratories, the grants will supplement the salaries paid to resident physicians while they continue their medical education. It will cover the period between July, 1966 and June, 1967. Application for grants should be addressed to the Chairman, Fellowship Committee, American Geriatrics Society, 10 Columbus Circle, New York, N.Y. 10019. Deadline is June 1, 1966.

Speakers On "Doctor's House Call"

Speakers scheduled for March on the Tuesday radio program, (11:05 a.m. WDEL) produced by the Medical Society of Delaware are: March 1: Jason L. Campbell, M.D., "Headaches;" March 8: Mark G. Cohen, M.D., "Diabetes;" March 15: Gregory Sarmousakis, M.D., "Marital Problems;" March 22: Alfred Lazarus, M.D., "Liver Diseases;" March 29: William O. LaMotte, Jr., M.D., "Medicare."

Medicine In Asia Today

American medicine influences in some degree the medicine of every other nation in the world. Through research, medical education, medical missionary work, and other means, the impact is felt on every continent. And, American medicine is concerned that its worldwide influence be used to improve the health of other people.

Among international health activities of the AMA are: international physicians placement service, to serve the increasing number of American physicians who want to serve abroad; foreign medical information for

physicians visiting overseas; medical missionary aid to assist physicians serving in foreign missions; international hospitality for foreign physicians visiting the U.S.; a directory of medical material collection programs to serve American volunteer medical organizations abroad; and support for international conferences on medical education.

A recent development in the AMA international health program is cooperation in Project Viet-Nam. The AMA has helped recruit physicians for Project Viet-Nam, which seeks to send volunteer American doctors to serve civilians in that war-torn land. Set up by funds from the U.S. State Department's Agency for international development, Project Viet-Nam is coordinated by the People-to-People Health Foundation.

The Month In Washington

The Social Security Administration reported that the nation spent \$36.8 billion in 1964 for health care, almost tripling the \$12.9 billion spent in 1950. Per capita expenditures more than doubled in the 15 year period, rising from \$84 to \$191 per person.

There was a considerable shift in method of payment for personal health services from direct out-of-pocket payments to third-party payments. Payments by third parties, which include insurance benefits, government payments and philanthropic payments, met slightly over one-third of the personal health care expenditures in 1950 and almost half of these expenditures in 1964. Government payments continued to provide about 22 per cent of the funds for all personal health services.

The Justice Department has ordered coordination of federal procedures to assure that medical facilities and institutions of higher learning which receive government funds do not practice racial discrimination. The Department of HEW will be responsible for:

- Preparing and distributing a compliance form to be submitted by all medical facilities and institutions of higher learning which receive federal money.

- Conducting periodic reviews of recipients and investigating any discrimination complaints against them.

- Attempting to secure voluntary compliance and notifying other departments and agencies when any such effort fails.

Both the AMA and the FDA have warned the public against interpreting the acquittal of the promoters of krebiozen as meaning it is effective in the treatment of cancer. The AMA said, "Cancer sufferers should consult with their physicians and not try to determine for themselves what is the best course of treatment in their own individual cases."

"As far back as 1963, krebiozen was proved to be nothing more than mineral oil and creatine, a common laboratory chemical," the FDA said. "That scientific judgment still stands."

Personal Glimpses

John M. Levinson, M.D., Wilmington, has arrived in Saigon, South Vietnam and will serve this month with MEDICO, a service of CARE. He will return to his local practice on February 28. Dr. Levinson has volunteered three times for service in South Vietnam because he feels that medical assistance is desperately needed there. He served in both 1963 and 1964 for one month terms. Dr. Levinson is also helping to support two cancer clinics in South Vietnam and will visit them during his stay in Saigon. He has raised over \$1000 to provide supplies to the

clinics with lecture tours before church, Rotary and University groups in Wilmington, Pennsylvania and New Jersey.

Southeastern Surgical Conference

Delaware has been made a part of the geographic territory of the Southeastern Surgical Congress. Dr. James R. McNinch of 113 S. State Street, Dover (674-2420) has been appointed membership representative. Physicians who are board-certified in surgery and who wish to join the Congress may get application forms from Dr. McNinch.

Brief Briefs

AMA journals have foreign circulation of nearly 40,000 and play a major role in disseminating U.S. medical knowledge. The ten nations in order of total circulation with the highest JAMA circulation are: Canada, Italy, Japan, England, India, Holland, Mexico, France, West Germany and Sweden.

• Improved and more effective psychopharmaceuticals that do not produce drowsiness or other undesirable side effects will be available some day. They will be aimed at specific clinical problems; to improve the memory, accelerate the thinking process, increase alertness, and assist slow-learners. Others will remove grief and sadness, and may be useful in alcoholism and other character disorders. *Austin Smith, M.D.*

THE RENEWAL OF PRESCRIPTION ORDERS

(Continued from Page 58)

less sense. The pharmacist is then in the position of having to determine whether it is truly a physician's instruction or whether the patient is acting on his own judgment.

By specifying renewal instructions on the prescription document or by accepting telephone communications, the physician can avoid inconvenience to himself and his patient and avoid placing the pharmacist in a compromising position. He can insure that the patient's medication needs are properly satisfied and that the necessary safeguards are provided at the least possible cost. From such co-operative practice better public and interprofessional understanding and better patient care will result.

HOBBIES, BEEKEEPING

(Continued from Page 60)

about 18 days a queen was formed, and the first one to hatch, immediately stung her unborn sisters to death, which is a poor demonstration of family spirit. I am wearing a veil, leather bee gloves and light colored clothing to protect against stings. The average beekeeper becomes almost insensitive to the stings. After being told that experienced

keepers do not wear gloves, I tried it once, but promptly decided after six stings that I was inexperienced.

EMERGENCY ROOM PHYSICIANS GROUP

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Auxiliary Affairs

ANNUAL PRESIDENT'S REPORT

Striving to keep in tune with the National Auxiliary's refrain "Close the Gap," the Woman's Auxiliary to the Medical Society of Delaware made an intensive effort to contact every doctor's wife in our state; as a present or a potential member. "Our members are our most valuable asset, and each member helps in some way, if only to show loyalty to the Medical profession. In the fall of 1964, each county sent personal invitations to every doctor's wife to attend a special, friendly get-together, at a coffee or luncheon. The response was most successful and requests made to have this repeated next year. This was followed by "Greetings" from the State President in a letter stating the theme for 1965 to be "100% Membership, and Getting to know you." Listed were the aims of the Auxiliary, types of membership, special activities, important meeting dates, and a hearty welcome to everyone to attend them; especially the Third Annual Spring Workshop with its objective being "Getting to Know Your Auxiliary." This personal approach revived interest and increased the membership in each county. Kent County with 7 new members and 94% record membership.

Reports of interest in our largest county were given by the Legislative, Health Careers, Disaster Preparedness, and Community Service Chairman; the latter included the newly formed "Operation Handclasp" for new residents, foreign doctors and their families. Since Mental Health has always been one of our key programs our chief speaker at this workshop was Dr. Daniel Lieberman, Commissioner of the State Department of Mental Health. He spoke on "Mental Health and your Responsibility," followed by a question and answer period that evoked deep thought as to the possible activities of our Auxiliary in the near future. One objective was fulfilled this year with the series "Milestones to Maturity" being placed in every

high school in the state and the promise of their use in health courses. With membership acknowledged as the accepted all-out effort of all our states, I'd like to mention the outstanding combined program of Disaster Preparedness and Safety presented in New Castle County. We are justly proud of their efforts and achievements in Health Mobilization.

An outstanding eleven session course in Medical Self Help was offered to Auxiliary members and representatives of local clubs and churches. This project under auspices of the U.S. Public Health Service and the Delaware Civil Defense proved most successful; 49 Civil Defense and 55 Red Cross Standard First-Aid certificates were awarded. A total of 89 women attended one or more of the classes. Six women received only the Red Cross First-Aid Certificate. Forty-nine women graduated from the Medical Self-Help Training Course as set up by the U.S. PHS.

Community Service and Public Relations chairmen assisted by contacting clubs and churches. Jointly they gave two programs for county homemaker's groups. 1. What's in the Medicine Cabinet, and Why? 2. Home Care of the Stroke Patient.

Local organizations participated in the training and supplied films. Several Wilmington doctors gave lectures on emergency first aid, burns and shock and emergency childbirth.

In conclusion, I proudly state that Delaware, with only three counties, has this year made an effort to grow in strength and grow in purpose. I am grateful for the many contributions of members of their time, interest, cooperation and their success in our projects. Please accept my thanks to all who made this past year a happy and rewarding one.

Mrs. Laurence L. Fitchett, President

THE MENTALLY ILL OFFENDER

- The care and place of confinement of the mentally ill offender in Delaware is discussed by the author. Emphasis is given to legal responsibility for the treatment of such patients, as well as the facilities provided for their confinement.

WILLIAM NARDINI, Ph.D.

It is the objective of this article to briefly discuss some of the important considerations involved in the disposition and treatment of the mentally ill offender under Delaware law, and in terms of current behavioral knowledge, as well as the current practice of handling such offenders throughout the United States.

In a discussion of the treatment of the mentally ill offender, one must be ever mindful of the complex questions concerning the issue of responsibility as involved in the substantive and procedural criminal law; the entire matter of the confinement of the mentally ill offender; the civil rights of such persons, and the facilities and staff delegated by law to so treat such offenders in this State.

Delaware Law and Current Confinement Practices in the United States

In approximately half of the States the mentally ill offender is confined in a separate ward or unit in a State Mental Hospital. In five they are unsegregated in the hospital; separate institutions are provided in ten States including Maryland and Massachusetts which have special procedures and special institutions for handling "defective delinquents." Two States house such patients in a ward or unit in a correctional institution, and in three others some are retained in a correctional institution while others are sent to the hospital. New York has two hospitals for the mentally ill criminal, and the New Jersey State Hospital has a number of patients in the building for the criminally insane. In States where patients are sent to a general mental hospital,

Dr. Nardini is Commissioner, Department of Correction, State of Delaware.

open wards are probably most prevalent; where they are sent to units at the prisons, cells are the usual type of housing for this type of offender.¹

Thus a majority of States commit the mentally ill offender to a non-correctional institution. Delaware is one such State. The State of Delaware, according to the Delaware Code, Title 16, Chapter 51, Sub-chapter 4, entitled The Criminally Mentally Ill, states that the Department of Mental Health shall establish within the Delaware State Hospital a department for the mentally ill offender, and that all mentally ill offenders shall be admitted to the Department of Mental Health's special section for such persons when committed by any Court of Delaware having jurisdiction over persons so committed. In this respect, Delaware pretty much follows the practice of many States in housing the mentally ill offender in a separate ward or unit in the State Hospital for the mentally ill.

It should also be pointed out that the Delaware Code, Title 11, Chapter 65, Section 6502, concerning the newly created Department of Corrections, expressly states that the mentally ill offender is not to be committed to the Department of Corrections, but to another proper authority, namely the Department of Mental Health.

Appropriate Place of Confinement

It is to be remembered that there are many important considerations in the substantive and procedural criminal law which indicate that those who violate the criminal law are quite different from those who may have other kinds of behavioral problems but do not so act out in violation of the criminal code. It is also important to remember that the law reflects the mores and values of a social order. Furthermore, the confining of the mentally ill offender with the mentally ill person who has not violated the law raises some very important questions concerning the propriety of housing criminals with non-criminals.

It would seem that the value system of a society as reflected in the feelings of many individuals so concerned with the mentally ill person who has not violated a criminal law

should be considered. Irrespective of the mental disorder of the offender versus the non-offender, it is common behavioral knowledge that the associations of persons of various types will eventually produce a common behavioral model which can have serious implications on post release behavior.

Proper facilities and programs should be developed for individuals who require psychiatric treatment, but *not* without considering the fact that they have been convicted of a crime. On the contrary, the mentally ill offender must be kept apart from the mentally ill non-offender, for although there may be similarities in the behavioral models of both mentally ill groups the experiences and acting out processes are quite different in many cases of the mentally ill who have not violated the criminal law.

It is equally important to be cognizant of the civil rights of all the mentally ill, including the mentally ill offender.

It is also to be remembered that the legislature of this State saw fit to grant funds to establish a facility in the Department of Mental Health for the specific purpose of housing and psychiatrically treating the mentally ill offender. In a State the size of Delaware, and with its current and excellent mental health plans, such a facility has been operational for several years to treat the mentally ill offender. In view of this, it would therefore seem most appropriate, and in accordance with the law, that the mentally ill offender be properly confined and treated in the facility constructed for that purpose at the Delaware State Hospital.

Additionally, it should be emphasized that no other facility exists within the Department of Corrections, or the State, to properly confine the mentally ill offender, nor does it appear any such confinement facility can be afforded by this State in view of the existence of such in the Department of Mental Health.

Finally, the mentally ill offender is a highly special type of case really representing the classic example of persons most in need of psychiatric care by a psychiatric staff, in a truly psychiatric setting.

Custody Versus Treatment

The question has frequently been discussed both in Departments of Correction and the Departments of Mental Health concerning the compatibility, or incompatibility, of the goals of maximum security versus that of rehabilitation. This author wishes to emphasize that the legal obligation to have a secure facility is in no way incompatible with having a progressive and meaningful program of correctionalization or rehabilitation. This author cannot accept the position that if one is responsible for security one cannot achieve the ultimate goal of rehabilitation, correctionalization or the treatment of the mentally ill offender. This is a misconceived notion which will only prevail in a situation where there is poor planning, inadequate personnel, and/or the existence of inadequate administrative policies and procedures to bring about the proper meshing of the rehabilitative and custodial programs in a given facility.

Public Safety and Protection Is an Important Obligation

It must be emphasized that the obligation in the handling of the normal and the mentally ill offender places an important responsibility in those who are obligated to administer such facilities to be forever mindful of public safety, or the protection of the community, by securely detaining those in their care. It seems inappropriate that merely because a person is confined in a Department of Mental Health facility, that such an agency should be less concerned about the secure keeping of its subjects than a Department of Corrections.

It must also be pointed out, that just as Departments of Mental Health are becoming more community oriented in the handling of the mentally ill, so also are the Departments of Correction in these United States becoming more relaxed in programing and more community oriented. In fact, the new Delaware Corrections Law specifically dictates that the correctionalization of offenders will emphasize rehabilitation and the releasing of offenders into the community at the time they are believed ready to be released, and when such is

in the best public interest. So it seems that it would be just as inappropriate for a Department of Correction to state that it does not want to handle security or behavioral problem type cases because of the feeling that its program will become more rehabilitative and relaxed in administration if it were not responsible for such, than it would be for a Department of Mental Health to say that we are different from a Department of Correction and we do not believe in security here and thus such functions should be performed by some other agency. Therefore, it would seem that it is the responsibility, under the laws of this State, that all agencies who have wards committed to their care by duly authorized tribunals are obligated to provide the necessary safekeeping and thus protect the community from those persons who see fit, for many complex reasons, to deviate from acceptable behavioral patterns.

Anti-Social Behavior

A great deal of use is often made of the term anti-social behavior. Now in consideration of crime as anti-social behavior, there is unfortunately an oversimplification of the conception of what is anti-social and thus the definition of such varies greatly from discipline to discipline, and from the reformer to the moralist and is quite contrary to legal thinking. As one well known criminologist states, "Problems that are essentially psychiatric or moral, for example, and that are without criminal implication cannot well be resolved by correctional techniques in the usual case. Conceptions of what is anti-social vary in time, place and intensity. Where there is wide disagreement as to policy the legislature generally would not act; but if it does, as experience has very clearly shown, law is often nullified in practice by lack of sufficient public or official support."² However, aside from what should be made criminal from the point of view of crime is in fact what the State, through its legislature, says it is.

Maximum Security Determination

It is interesting to note that in a recent article on the mentally ill offender in Delaware, it was indicated that the particular men-

tally ill offenders who require maximum security will be determined by the professional staff of one department but handled, in terms of security, by the staff of an entirely different department. It would seem that *if* the Department of Mental Health were incapable of providing the kind of security that is necessary—and this is an untenable position—those who are qualified to do such should also be considered as the determiners of who are maximum security risks, and who are not, because this presumes then that the Department of Corrections is the expert in maximum security procedures.

Additionally, treatment programs can be developed according to the requirements of the individual who has violated the criminal law within a maximum security facility just as much as it can be developed in a medium or minimum security facility. It is incorrect to state that treatment has to be sacrificed, or professional treatment staff efforts “dissipated”, because of the concern for the security factors in certain case types. On the contrary, all staff must be conscious of security in our working with such individuals, and this is regardless of whether it be the attendant, the custodial officer, the clinician or the chaplain in a given case. Our obligation is to protect society, as well as to protect the individual from himself, and to prepare him for ultimate and successful citizen ship after release.

Concluding Remarks

There is a great deal of difference of opinion concerning the exact confinement place, and the proper handling of the mentally ill offender in the United States. As was indicated above, many of the States provide a separate facility within the Department of Mental Health for the confinement of the mentally ill offender. The thought is, and rightly so, that the mentally ill offender is essentially a psychiatric case needing specialized treatment by the psychiatric staff whose forte is the treatment of this particular type of offender. Thus, the mentally ill offender should be completely segregated from all other types of behavioral problems and treated accordingly.

The Delaware Law is clear in its delegation of responsibility, and in the establishment of

certain physical and staff resources to handle the mentally ill offender. It is appropriate, and demanded by law, that the receiving agency having the responsibility for the mentally ill offender establish the same kinds of security measures and programs within their confines as it would be for any other receiving agency. The responsibility is clear. The legislature and the people of this State have spoken in this regard, and in so doing have confidence in the excellent psychiatric staff of the Department of Mental Health, together with the facilities which it has been given through legislative enactment, to do an outstanding job of providing psychiatric treatment for the mentally ill offender.

It is to be emphasized, that the treatment of the mentally ill offender is an extremely complex question involving the substantive and procedural laws of the State, the amount and reliability of available knowledge in the behavioral sciences, and the most effective utilization of psychiatric staff in the State without increasing unnecessary duplication of staff effort and numbers. Any serious deviation of procedure in the handling of this very difficult type of offender should not be made by a single person, agency, or discipline, but should be carefully thought out considering all of the important elements in the administration of justice, the behavioral science, the availability of resources and the values and objectives of the society in which we live.

Washington Conference Set

A significant conference of behavioral science experts and clinicians is soon to meet in Washington, D.C. to discuss this entire area of the mentally ill offender, and the problems involved therein. It will be important for all of us to be aware of the findings and recommendations to be made by this important group of experts in the field of human behavior. It is hopeful that an acceptable methodology for handling the mentally ill offenders, and for dealing with many other related problems, will be forthcoming from this conference to give us the guidance we need in establishing the appropriate kinds of programs for the mentally ill offender in Delaware and in the United States.

MEDICARE AND UTILIZATION REVIEW

- This paper gives the clearest available projection of the effect of utilization review upon the Medicare program.

ARTHUR E. HESS

The occasion of this conference on utilization review affords an opportunity to further confer with you about the utilization review provisions of the health insurance program for the aged. I know you all share my conviction that it is vital to the successful implementation of the program to have informative and meaningful communication between those of us who are responsible for administering the program and individuals and organizations who will be affected by it or who have knowledge or experience to contribute to it. Experience since enactment of the health insurance legislation has repeatedly underscored the importance of such communication both for purposes of sound administrative planning and for conveying to all interested parties an understanding of the spirit in which the requirements of the law will be administered.

I am happy to say that effective lines of communication between the Government and the medical profession have been established and that there has been and will continue to be a responsible and frank exchange of views. We are most appreciative of the discussions we are having with leaders of your profession. We are making good progress, thanks primarily to the substantial assistance we are getting from them in planning for sound policies under the program.

As this meeting indicates, utilization review programs in general, and the requirement for a utilization review plan under the hospital insurance law in particular, have become the subject of intense interest and deep profes-

sional concern. But it would be a great mistake — and far from the truth — if my presence and that of Dr. John Cashman in lead-off positions on this program were to suggest to the public that the great developments now taking place in the field of utilization review are simply a response to the passage of Medicare. You and I know that the time is ripe for the Nation's hospitals and the Nation's physicians to embrace, generally, what many hospitals and their medical staffs as well as a good many medical societies have already embraced individually. So I repeat, though the current emphasis may have been precipitated by Medicare, it is clear from all that has occurred in recent years that your profession has been moving in the same general direction — to give reassurance of professional concern for effective utilization to the total public and to all third-parties and to all public programs, including not just the Social Security hospital insurance provisions, but also Title XIX and other welfare provisions.

At the base of it all is the individual physician's concern for his individual patient regardless of age or circumstance of payment. For, as I see the emerging concept of utilization review it has one, compelling justification — it is the way in which doctors, working together and accountable to each other, can assure that each patient in the light of medical necessity will have fair access to and an optimum use of scarce and expensive facilities. If this is a correct assessment of the direction in which you as physicians and we as consumers are going to go together, then I see it as our responsibility in Social Security Administration in implementing the new law to do everything possible to accommodate and encourage existing practices — however variable they

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Presentation to the Seventh Annual Medical Services Conference, American Medical Association, Philadelphia, Pennsylvania, November 27, 1965.

may be — so long as they give promise, under professional direction, of assuring quality care to patients through sound utilization of hospital facilities and services.

I find in my travels about the country that there is full agreement that professional people must be responsible for determining how such reviews can best be done, but that some concern exists over the question of how the program will ascertain, once an institution establishes a utilization review plan, that the plan is in existence and operates effectively. What I propose to do in my talk, therefore, is to provide an explanation of the purpose of the utilization review plan requirement in the law and to indicate, in a general way, how we believe different patterns may emerge to meet the requirement and what administrative responsibilities might be shared by State agencies, intermediaries, and providers of services in the process of implementing this requirement.

Conditions for Participation for Hospitals and Extended Care Facilities

To bring the question of utilization review into focus, let me briefly describe to you first how a hospital or extended care facility wishing to participate in the program establishes its eligibility. The law defines for purposes of our program the terms "hospital," "extended care facility," and "home health agency." Such providers may participate if they meet the defined conditions of law and the additional conditions of health and safety that may be established. In general, these additional conditions cannot exceed the comparable requirements of the Joint Commission. The intention of these provisions is not to impose requirements that are unduly restrictive. Rather, the program through these definitions and through its commitment to pay reasonable cost will provide support to what has now been achieved in the way of quality care and will make future upgrading possible as progress in standards is made in the private and public sectors and through accreditation activities.

In order to determine whether an institution wishing to participate can do so, we must use appropriate State agencies to ascertain

whether the appropriate requirements are met. We are now contracting with State agencies — in nearly all instances the State Health Department — to work for us not only in the certification process but to provide consultation to marginal institutions that may have problems inqualifying and to assure coordination between the work the State must do for our program and other ongoing State activities, such as licensing, facility construction programs, and other responsibilities the State Health Departments may have under the State law.

A major part of the job the States will perform is to receive applications from hospitals, extended care facilities, and home health agencies to determine (and certify to the Federal program) whether these institutions and agencies meet the program's conditions of participation. This will involve a major workload that must be completed to the extent possible before July 1966, when the program goes into effect. In the case of hospitals, the task is simplified by the fact that under the law, in general, hospitals accredited by the Joint Commission on Accreditation of Hospitals are presumed to meet the conditions of participation, except for the requirement of utilization review. In order to give assurance of this latter fact, State agencies will be advised by us (and their budgetary support will be calculated accordingly) that the ascertainment of the existence of a qualified utilization review mechanism normally can be assured through an appropriate submittal by the hospital of a statement of its plan.

When the fiscal intermediary comes on center stage in the near future, we will rely heavily on the intermediary to participate with the medical profession in the long-run measures that will result in assurance that utilization review does in fact function in the ways that it was indicated it would function at the time of certification of the institution. The State agency will, of course, work with the medical profession, hospital association, and the fiscal intermediary to take judicial cognizance of steps being taken in the professional community to assure not only the creation, but the

likelihood of effective functioning of these plans.

I need to tell you frankly that the States have a very big job of certification and consultation to perform and this will be especially time-consuming in the case of small institutions and for facilities and programs that we might, in all candor, call marginal at this point. So you will hear that the State agencies are staffing up to take on the important task assigned to them and you should know that these State agencies must have your support in accomplishing their staffing needs. The job will not even get off the ground if the States do not move rapidly to acquire additional personnel. These people are being recruited because the States will have an overwhelming job in the next several years simply ascertaining and properly documenting the participation of qualified institutions and home health agencies and helping those to qualify that might otherwise fall short of the health and safety requirements. And their assignment must be seen in total context and in relation to the role of the fiscal intermediary.

But before discussing the activities of the State agencies and fiscal intermediaries in the area of utilization review, let me discuss our general administrative posture in respect to this particular facet of eligibility. As most of you know, the Social Security Administration has engaged in extensive consultations with a number of professional individuals and organizations, including representatives of the American Medical Association, and we are presently working with a professional consultant Work Group on Physician Participation on the question of how best to implement the utilization review plan provision. As a result, much of what I say today reflects what we have learned from our consultations with physicians who are your representatives, as well as other health professionals, and what we have so far received from these consultants in the way of suggestions for administrative implementation of the requirement.

Utilization Review Plan Requirement

Under the law, an institution electing to participate in the program would be required

to have in effect a utilization review plan which is applicable to services furnished to beneficiaries of the hospital insurance program.

This plan would have to provide for continuing reviews by a utilization review mechanism of the institution's own choice or creation. This mechanism could consist of a hospital staff committee including two or more physicians or a group outside the hospital which is similar in composition to the staff committee. The utilization review plan must, however, provide for review by a group outside the institution where, because of its small size, it is impractical for the institution to have a properly functioning staff committee for purposes of conducting utilization reviews. The staff committee or other mechanism set up under the plan would be responsible for undertaking two kinds of reviews.

The first kind, which could be on a sample or other basis, would look into the various elements of utilization retrospectively — admissions, services provided, and lengths of stays — from the standpoint of their medical necessity. The purpose of this review is essentially educational; that is, the committee's activities would, by providing for professional scrutiny of practices within the institution, result in the formulation of appropriate professional criteria with respect to the medical necessity for hospital care and the provision of medical services. I very much like the phrase used in your recent publication "Utilization Review, A Handbook for the Medical Staff," which refers to review committees as "committees of awareness." This phrase, I think, entirely reflects our administrative objectives in this first kind of review.

The second kind of review would be of the individual beneficiary remaining in the institution for a period of extended duration. While there is authority in the law to specify the period or periods that shall be considered as constituting long stays for purposes of this review, it is expected, as I shall note below, that the institution, itself, would be asked to specify in its utilization review plan the number of continuous days of hospitalization following which a review would be made to deter-

mine whether further inpatient services are medically necessary. This review would have to be made within one week following the last day of such a period of continuous hospitalization. When the findings of the physician members of the committee with respect to the medical necessity for continued hospitalization disagree with those of the attending physician, the committee is required to notify the attending physician of its findings and to provide an opportunity for consultation between the committee and the physician. If the physician members of the utilization review committee (after consultation with the attending physician) make a conclusive finding that continued hospital care is not medically necessary, the social security funds are relieved of the liability of paying for such further care after the third day following the day the institution receives notice of such finding. However, no report would be required from the committee (other than that the case has been considered) if the committee does not find it necessary to come to a negative conclusion.

There is one other significant provision of the law relating to the requirement of a utilization review plan, and it might be well to pause for a moment to mention it. Under the law, if the Joint Commission on Accreditation of Hospitals adopts for hospital accreditation a utilization review plan requirement, or another requirement that serves substantially the same purpose, the Federal program could accept accreditation by the Joint Commission as sufficient evidence that a hospital meets the requirements of the law.

Guiding Principles

There are several underlying principles which have served as the basis for our discussions with consultant groups and for our administrative planning of ways to most reasonably and effectively implement the utilization review provisions.

First, the utilization review plan of a hospital should have as its over-all objective the maintenance of high quality patient care, and an increase in effective utilization of hospital services to be achieved through an educational approach involving study of patterns of care,

and the encouragement of appropriate utilization. Second, it must always remain the responsibility of physicians to make the decisions regarding hospital admission, course of treatment, and length of stay based on the medical needs of the patient. Third, the individual hospital, under its governing body and through its medical staff, carries full responsibility for the effectiveness and efficiency of the operation of the utilization review plan. Since no two hospitals are alike, it follows from these principles that each hospital must develop, within the framework of professionally established criteria and the allowable limits of the law, its own utilization review procedures. As the Congressional committee reports clearly indicate, the intent of the Congress was to provide a flexible framework within which hospitals and physicians could develop, in the light of professional considerations, the most appropriate procedures for each individual institution.

Explicit in these principles is the inviolability of the physician's right and duty to exercise his medical judgment. Implicit is the joint hospital-physician responsibility for effective utilization. Thus the hospital administrator must also be concerned with facets of the hospital's day-to-day operation which influence efficient use of the hospital's facilities. The administrator can assume his share of the responsibility by assuring that the utilization review functions performed by the medical staff have the support and assistance of the hospital's administrative staff in assembling information, facilitating chart reviews, conducting studies, exploring ways to improve administrative procedures, maintaining committee records and promoting the most efficient use of available health services and facilities. In addition, the costs incurred in connection with the implementation of the utilization review plan will be includable in the definition of reasonable costs and will be reimbursable to the extent that such costs relate to health insurance program beneficiaries.

Development of Regulations

Let me assure you that in our administrative planning to implement the utilization review provision of the law every effort is being

made to develop regulations fully consistent with these underlying principles. It is the intention of the Social Security Administration to provide as much freedom as possible for hospitals and the medical profession to develop those mechanisms and procedures which are found most suitable and effective within the context of the structure, organization, and needs of individual hospitals. Thus, we believe that the most significant decisions that will have to be made with respect to utilization reviews will not be decisions involving compliance with Federal regulations, but rather the decisions hospitals and physicians will make for themselves about how best to set up and develop the appropriate mechanisms for utilization review.

Although the regulations on this subject have not as yet been finally framed, such good progress has been made that I can tell you with some assurance the direction our planning is taking, even if it is necessary for me to describe these developments in rather general terms. As I have indicated, the utilization review plan of a hospital should be designed first to perform an educational function, that is, to evaluate on the same professional basis now characteristic of records, tissue and other committees, practices within the hospital with a view to formulating professional criteria for eliminating apparent inefficiencies in the use of hospital services and facilities. The review of professional services furnished might, for example, include study of such conditions as overuse or underuse of services, logical substantiation of diagnoses, proper use of consultation, and whether required diagnostic work-up and treatment are initiated and carried out promptly. These are matters for determination by the staff in its review plan. Review of lengths of stay might consider not only medical necessity, but the effect that hospital staffing may have on duration of stay, whether assistance is available to the physician in arranging for discharge planning, and the availability of out-of-hospital facilities and services which will assure continuity of care.

In order to satisfy the participation requirement of the law, it is contemplated that each

hospital wishing to participate will be asked to prepare a currently applicable written description of its utilization review plan covering the following items: the organization and composition of the committee or committees which are responsible for conducting utilization reviews; the frequency with which the committee meets, the type of record it maintains, and the criteria used by the committee in selecting cases on a sample or other basis; the committee's working definition of what constitutes a period of extended duration; the relationship of the utilization review plan to claims administered by a third party; and the responsibilities of the hospital's administrative staff in relation to the performance of utilization reviews.

Although the law states, in describing the utilization review plan, that reviews shall be conducted by a "staff committee" or by a group outside the hospital, it is assumed that more than one committee or group may properly be involved in utilization reviews. Thus, the medical care appraisal and educational aspects of review on a sample or other basis, and the review of long-stay cases need not be conducted by the same committee or group. Also, it is not mandatory that the medical staff create a new committee; existing staff committees may assume the review responsibility stipulated in the hospital's review plan.

The review of admissions, duration of stays and services furnished, which may be conducted on a sample or other basis, should be conducted so as to provide the kind of information that will promote efficient use of the hospital's services and facilities. There is substantial agreement among professional people that while it is desirable to permit hospitals wide latitude in selecting the method to be followed in conducting these reviews, there should be some assurance that a meaningful method is actually adopted. The methods which have so far been suggested include the use of services and facilities of external organizations which compile statistics, design profiles and produce other comparative data, cooperative endeavors with intermediaries, such as Blue Cross, and internal studies of medical

records. Each hospital would, of course, be free to select the method or combination of methods it preferred.

As I have indicated, the second requirement is that a review be made of each beneficiary case of continuous extended duration. Since the law does not provide a definition of a period of continuous extended duration, our consultant groups have devoted a considerable amount of discussion to the question of whether such a definition should be included in regulations or left to the judgment of the individual hospital's medical staff. The preponderance of opinion has been that such a determination should be left to the judgment of the medical staff and that the hospital's utilization review plan should reflect this judgment by specifying in its written description the number of continuous days of hospital stay following which a review shall be made. It is recognized that in many cases there may be divergences in opinion among individual physicians with respect to the evaluation of medical necessity for continued inpatient hospital services. It is contemplated, therefore, that the judgment of the attending physician in an extended care case will be given great weight by the review committee.

Since the work of the utilization review committee, particularly its findings as a result of reviews of admissions, stays and services provided, has significant potential for improving hospital procedures, the importance of maintaining records and disseminating appropriate data cannot be overemphasized. It is to be expected, therefore, that committees will keep records of their activities, that reports will be regularly made to the executive committee of the medical staff and that relevant information and recommendations will be reported through usual channels to the entire medical staff and the governing body of the hospital.

State Agencies and Fiscal Intermediaries

Finally, I might suggest the varying responsibilities that we see being carried by the State agencies and the fiscal intermediaries, in their roles of assistance under agreements with, and under guidelines set forth by, the Federal pro-

gram. We have every reason to hope — indeed, to expect — that over time, where there are questions of performance, the fiscal intermediaries, working with medical review mechanisms in the individual hospitals and through responsible local committees of the medical societies will bring about a satisfactory degree of local uniformity within the framework of local autonomy. While looking to the State agencies to give us assurance in the first instance that a participating hospital is adhering to a plan so constructed as to bid fair to meet the desired objective, we will look to the fiscal intermediary, the hospital administrative staff, and the medical community for primary assurance of effective functioning. This assurance, we believe may be fully supported by statistical analyses and consultations based on questions arising out of day-to-day claims administration, rather than requiring audits of the individual case judgments of review committees. Where an individual case poses an issue, that issue would characteristically be resolved through the fiscal intermediaries' concern with the judgment as a basis for payment. The really valid appraisal of the effectiveness of utilization review committees can only be based on judgments which are made over reasonable time periods and which view the committee as one of the functional processes, among many others, by which physicians apply professional criteria to their own performance.

Conclusion

Let me conclude by reiterating what is really the most important element in this whole matter — the assurance that we are administratively approaching utilization review in an atmosphere of accommodation because we recognize how much has been done, and yet how much more remains to be done by your own profession. We are in accord with each other as to the importance of the purposes which need to be served. The problems of utilization review are complex and subtle and, at best, will take time to work out. We believe that this can only be achieved in a climate where the medical profession is given the opportunity to maintain its leadership, its ex-

perimentation, its flexibility and its responsibility for working toward solutions.

Third party programs, whether publicly or privately financed, have the obligation of assuring that utilization review is in effect and is achieving the important purposes for which it is designed. The actual existence of a plan can be ascertained without significant difficulty, but the evaluation of its functioning over time is more subtle. Today physicians and hospital authorities do have it within their power through the tester mechanism of physician committees, accountable to either the organized staff of the hospital, or to the larger physician community represented by the medical societies, to achieve effectively functioning utilization review committees through voluntary mechanisms, as they have already done in some places with significant success. We believe that such mechanisms, conscientiously applied by physicians in furtherance of their own professional commitments will accomplish more for total patient care — quality-wise as well as cost-wise — than any other measures.

We believe that our administrative concern — and the concern of the public — can be satisfied within the framework of the variable techniques which you will be discussing in the course of the day. If the medical community

and hospitals reflect their professional concerns in the various mechanisms they themselves develop, then I think it can be predicted that *our* administrative concern will *rarely not* be met. What I think we have is a constellation of interests which are common to all the components involved — the concern of your own profession, the concern of State health departments and the concern of fiscal intermediaries. Each will pursue this common objective in the light of its own special role in the program — the State agency concerning itself with the utilization review mechanisms which meet the requirements of the law are in effect for all participating hospitals, the fiscal intermediary in its day-to-day claims administration being alert to the case-by-case reflection of the results of the various utilization mechanisms, and the physician community exercising the responsibilities that only your profession can exercise — the professional demand for constant guarantees, of which proper utilization is but one part, that medical care of high quality is available to every individual served by your profession. Medicare may stimulate the growth of utilization review mechanisms — but it makes no demands on the medical community, in terms of professional goals, which they have not already made of themselves individually and as a profession.

Letter To:—

The Medical Society of Delaware:

My sincere thanks for the excellent help rendered us by the resolution for Title XVIII, naming Blue Shield as intermediary for Part B.

I am quite sure this resolution was one of the deciding factors used by the Honorable John Gardner, Secretary, HEW, in our being named as intermediary for Part B.

As we move forward in the administration of this portion of legislation, I hope our continued interest will work toward the proper implementation of the law. You may rest assured that we at Blue Shield are ready to work shoulder to shoulder with the Medical Society and I am quite sure we can depend upon their whole hearted support as we have had in the past.

C. T. Foster, Assistant Managing Director

PSYCHOTHERAPY IN PREGNANCY

- Pregnancy is a normal biologic process and for the well adjusted woman, the fulfillment of her biologic mission in life. The central thesis of this communication is that psychotherapy reduces the incidence of the complications of pregnancy.

NICHOLAS DESTOUNIS, M.D.

If we are to accept Reusch theory of communication that, "the body as a whole can be looked upon as an instrument of communication receiving, evaluating, and transmitting messages," then a pregnant woman; in my opinion, elaborates the messages not only from the ovum in her uterus, but from every tissue in her body. This I call an *esoteric* cycle of stimulation. But, the pregnant woman is also under the constant influences of her cosmos (Family, community, culture, etc.) this I call an *exoteric* cycle of stimulation.

As the pregnancy progresses, complex psycho-physiological changes take place. The psychological reactions are, on one hand, a reflection of the increase and considerable fluctuation of certain hormonal substances in the blood, the outcome of her pre-pregnant personality makeup, and the strength of her ego on the other.

The central thesis of this paper is that psychotherapy reduces the incidence of complications of pregnancy.

In other communications presented at the First International Congress of Psychosomatic Medicine—Childbirth (Destounis, N.), and

at the Sixth European Conference of Psychosomatic Research (Destounis, N.), I had the opportunity to report preliminary findings.

In this communication I am presenting the findings of 104 women, of whom 52 were followed throughout their pregnancy psychotherapeutically (Experimental Group), and 52 women who were followed throughout their pregnancy by the family physician or obstetrician only (Control Group), for comparison and analysis.

Psychotherapeutic Approach

During the first interview the following data were obtained:

1. Medical-obstetrical-gynaecological history
2. Father's and husband's socio-economic status
3. Religion
4. Age
5. Education
6. Nationality
7. Psychosomatic anamnesis

The interview consisted of a tape-recorded interview (45-60 minutes) and included the collection of blood for serological studies (Rose Waaler Test), based upon the findings that the blood of patients with diseases of col-

Communication delivered at the Sixth International Congress of Psychotherapy, London, England, August, 1964.

Dr. Destounis, D.P.M., F.A.G.S., F.R.M.S., is Assistant Clinical Director, Delaware State Hospital, New Castle, Delaware.

lagen tissue is characterized by its ability to agglutinate sheep red blood cells, at weekly intervals. The patient was instructed at the same time to collect weekly 48-hour specimens of urine for hormonal evaluation (17-ketosteroid, 17-Hydroxycorticoids). The psychotherapy began between the second and third months of the pregnancy at weekly intervals and continued to the termination of pregnancy and a post-delivery interview.

An attempt will be made to show how far "psychoanalytically" oriented psychotherapy constitutes a fertile avenue of approach, and enables us to uncover the mother's feelings; positive (acceptance), or negative (rejection) towards the baby, and to predict the future mother-child relationship.

Furthermore, this approach enables us to appreciate the significance of the following factors:

1. Prenatal anxiety and fear of unknown
2. Fear of pregnancy complications and fear of pain
3. Fear of malformed baby
4. Feelings of inadequacy as wife and mother-to-be
5. Lack of self-identity
6. Personality and ego strength

The psychotherapeutic approach is based upon:

- A. Clinical evaluation
- B. Psychodynamics
- C. Emotional and intellectual support
- D. Dream interpretation
- E. Transference

During the psychotherapeutic sessions I attempted to use the "free association" technique. Nevertheless, I must stress here that very often my therapy tended to be *individualized* according to my patient's specific needs, intellectual capacity, age, cultural background, etc. The therapy per se was divided into four phases and was especially, designed for the pregnant woman:

1. *Initial Phase*: During this phase the following topics were discussed:

- (a) Description of the study, purpose, etc.
- (b) Description of the anatomy and physiology of sex-pregnancy.
- (c) Explanation of the validity of natural childbirth and encouragement to take part in special classes dealing with it.
- (d) Suggestion of bringing the husband in for a "get-acquainted" interview.
- (e) Contact with the referring physician.

2. *Therapeutic Phase*: During this phase I encourage:

- (a) Dependency upon me and to inform the patient that I was at her disposition by day or night, in case she wished to contact me during minor or major stress.
- (b) Discussion of the past family relationships (parental attitudes, parents' personalities, patient's feelings towards parents, conflicts with them, memories of them, dreams of them, relationships with siblings, etc.).
- (c) Discussion of present life situation (sexual life, communication with husband, understanding, conflicts with him, husband's personality and attitude towards pregnancy-baby, social adaptability, etc.).

It is also during this phase of therapy that my patients become free from any somatic complaints, nausea, vomiting, headaches, backaches, etc., and this continues until the termination of the therapy.

Furthermore, it is important to note here that the transference phenomenon develops during this phase of the therapy and the reward from its early appearance, from the psychotherapeutic point of view, is very considerable. I should add at this point that the behavior of each patient is assessed during each interview in terms of anxiety, effect, and cooperation. Again it is remarkable to note that after the third or fourth interview the patient becomes more relaxed, calm, and cooperative. Furthermore, the progress report which she is instructed to fill out after each interview indicates also a remarkable improvement, when practically all of them stated, "I never felt happier in my life . . . After each inter-

TABLE 1

<i>Complications</i>	<i>Exp. Group</i>	<i>Control Group</i>	<i>Total</i>
Spontaneous Abortion	1 (1.9%)	5 (9.6%)	6
Prematurity			
Severe Nausea and Vomiting	1 (1.9%)	2 (3.8%)	3
Toxemia	0	20 (38.5%)	20
Kidney Diseases	0	4 (7.7%)	4
Stillbirth	0	2 (3.8%)	2
Prolonged Labor	0	0 (0.0%)	0
Nervousness During Labor	0	3 (5.8%)	3
No complications	0	7 (13.4%)	7
	50	9 (17.3%)	59
A comparison of all types of complications reported by both groups	—	—	—
	52	52	104

$$X^2 = 35.705 > P .01$$

TABLE II

<i>Social Classification</i>	<i>Exp. Group</i>	<i>Control Group</i>	<i>Total</i>	
1 and II	10 (19.2%)	2 (3.8%)	12	
III	30 (57.7%)	20 (38.5%)	50	
IV and V	12 (23.1%)	30 (57.7%)	42	
	—	—	—	
	52	52	104	Comparison of group variations in subjects. Class identification (father) prior to marriage.

$$X^2 = 15.046 > P .01$$

view I feel relieved from my anxieties, fears, doubts . . . I am getting to know my self much better now and feel like a new person . . . I am looking forward to the birth of my baby . . . without your assistance I would have aborted . . .”

3. *Metabolic Phase*: I call this phase of therapy when the fetal movements first appear. It is indeed in this period of the pregnancy that the pregnant woman reacts emotionally according to her pre-pregnant personality structure. In other words, in this period certain *emotional* changes take place which very frequently are accompanied by certain *physiological* changes. The pregnant woman at this new period of her life begins to be more concerned about her own life and that of the baby. Generally speaking, we could say that her reactions to this experience de-

pended upon her psychological resources and, particularly, on her ego's strength. At this phase of the therapy I emphasized that pregnancy is one of the most rewarding things for the married woman, and that by being pregnant it means that she is fulfilling her biologic mission in life. This stage of pregnancy, with the above-mentioned emotional reactions, requires a change in our approach. Thus, at this phase I encourage the following discussions:

- (a) Child development, etc.
- (b) Emphasis of patient's independence.
- (c) Emphasis of prenatal classes (natural childbirth, etc.).

4. *Preparation for Childbirth*: The psychological preparation of the expectant mother and correct conduct of labor are of paramount importance. Read was the first investigator

TABLE III

Class Identification (Husband) During the Time
Period of the Study (1960-1963)

	<i>Social Classification</i>	<i>Exp. Group</i>	<i>Control Group</i>	<i>Total</i>
	1 and II	15 (28.9%)	9 (17.3%)	24
	III	35 (67.3%)	28 (53.8%)	63
	IV and V	2 (3.8%)	15 (28.9%)	17
		—	—	—
Comparison of group variations in subjects.		52	52	52

TABLE IV

Class I	Professional, etc., Occupations: e.g. Doctors, Professional Engineers, Accountants, Commissioned Officers	
Class II	Intermediate Occupations: e.g. Industrial Managers, Business Proprietors, Pharmacists, Costing Clerks	
Class III	Skilled Occupations: e.b. Joiners, Electricians, Plumbers	
Class IV	Partially Skilled Occupations: e.g. Farm Laborers, Railway Firemen, Bus Conductors	The social class classification used is based on the classification of occupations in Great Britain in 1950.
Class V	Unskilled Occupations: e.m. Laborers, Porters	

TABLE V

Comparison of Education, Religion, Age, Within Two Groups

EXPERIMENTAL GROUP

<i>Education</i>		<i>Religion</i>		<i>Age</i>	
Grammar School	20 (38.5%)	Roman Catholic	25 (48.1%)	From 20-30	32 (38.5%)
High School	32 (61.5%)	Protestant	20 (38.5%)	From 30-40	20 (61.5%)
		Other	7		
	—		—		—
	52		52		52

CONTROL GROUP

<i>Education</i>		<i>Religion</i>		<i>Age</i>	
Grammar School	29 (55.8%)	Roman Catholic	19 (36.5%)	From 20-30	35 (67.3%)
High School	23 (44.2%)	Protestant	30 (57.7%)	From 30-40	17 (42.7%)
		Other	3 (5.8%)		
	—		—		—
	52		52		52

$$X^2=3.126>P=.10<.05$$

$$X^2=4.418>P=.20<.10$$

$$X^2=.37>P=.07<.50$$

to develop the method of "natural childbirth." Velvovski et al, in the U.S.S.R. in 1949, introduced the PPM (Velvovski) method which is a development of the hypnotic method, slightly modified, was introduced in France by Lamaze and Vellay. Chertok, on the other hand, has divided relaxation during the labor period into three levels: muscular, central and psychotherapeutic.

My approach during this phase of the therapy was to emphasize to the patient that:

- (a) Labor is a "painless process",
- (b) Anxieties, fears and expectation of pain can be eliminated,
- (c) The validity of physical and mental relaxation should be stressed,
- (d) The stages of labor, the actual delivery mechanism are natural physiological processes.
- (e) The hospital personnel familiarization (attendance of pre-natal classes which include a course in natural childbirth) will cause them to cease being "strange" to her.

Furthermore, I encourage the following discussions:

- (f) The physiological and psychological validity of breast feeding (most of the patients were in favour of it).
- (g) Post-delivery reorganization of personal life and adjustment to new experiences.
- (h) Difficulties during the first months of the child's life and a description of childhood diseases.
- (i) Means and ways of fulfillment of happiness with the family.

It should be added here that from the time the patient is admitted to the maternity hospital, we are available to her day or night to go to her bedside in order to give emotional support and encouragement, and be there at the delivery if she so desires.

Results and Analysis

The findings of this well controlled study are presented in the following tables in order to compare the outcome of the pregnancy of our experimental group with the women of the

control group who had only a rather short initial contact with us, and then they were followed by their family physician-obstetrician only from whom the data of the latter group were obtained.

Thus, *Table 1* illustrates all the reported complications in pregnancy in both groups. Statistical analysis utilizing chi square method indicated that differences between the two groups were significant at $P > .01$ level.

Table II summarizes the comparison of group variation in the subject's class identification (father) prior to marriage. Statistical analysis indicated that the difference between the two groups was significant at $P > .01$ level.

Table III represents the social class identification (husband) of both groups during the time period of the study (1960-63). Statistical analysis shows that the differences between the two groups were significant at the $P > .01$ level. The Social Classification used is based upon the Classification of Occupations in Great Britain in 1950, as seen in *Table IV*.

Table V illustrates the education, religion, and age in both groups. Statistical analysis shows that the differences between the two groups were not statistically significant.

Summary

This study has presented comparative data on two groups:

1. 52 women followed throughout their pregnancy psychotherapeutically (Experimental Group).
 2. 52 women followed throughout their pregnancy by the family physician or obstetrician only (Control Group).
- A. Of the experimental group only 2 (3.8%) developed complications in pregnancy, in contrast to 43 (83.1%) of the control group. $X^2 = 35.705$; $P > .01$
 - B. Psychotherapy given these women had a salutary effect upon those psychophysiological processes which maintain pregnancy at a live-birth rate of 96.2%.

References will be supplied by the Journal on request.

NEW APPROACH TO THE MANAGEMENT OF SUBACUTE SINUSITIS

- This article describes a treatment for sinusitis which in the experience of the author has had exceptional results.

SAMUEL R. SPLITTER, M.D.

The importance of constitutional factors in recovery from sinus disease, or of host resistance to recurrences of the disorder, is emphasized repeatedly in the literature. Frequent reference is made to the use of mixed bacterial or autogenous vaccines as immunizing measures, and to general nutritional and other supportive therapy to bolster the patient's resistance nonspecifically. It has been our observation that when relief is obtained, the patient's own recuperative power often deserves the credit, rather than therapeutic measures.

Positive reports in the literature prompted us to investigate a new, biophysical approach to stimulation of the defense mechanism. The procedure is diapulse therapy, the application of pulsed electromagnetic energy devoid of any significant thermal effect. Laboratory and clinical studies have demonstrated application of this energy may (a) inhibit the inflammatory response of tissues to irritating substances,¹ (b) stimulate the reticuloendothelial system,² and (c) enhance the activity of human gamma globulin.³

Cameron,⁴ in a controlled experiment on dogs subjected to wounds of the skin and connective tissue, provides microscopic evidence that diapulse therapy is effective in stimulating certain healing processes. Using as parameters white blood cell infiltration, phagocytic activity, histiocytic activity, fat stimulation, transverse alignment of fibroblasts, collagen formation, and hematoma canalization, he found the healing rate accelerated two to four times in animals receiving diapulse treatments.

These results are additional evidence that diapulse therapy may enhance the body's defense and reparative mechanisms.

Good to excellent results in the management of sinus and related disease were attributed to diapulse therapy in two clinical reports.^{5 6}

Materials and Methods

Our study comprised 110 patients with subacute sinusitis, 63 men and 47 women ranging in age from 7 to 77 years. So far as could be determined by nasal smear, eosinophil count and sensitivity test, allergy was not a factor. Every patient had been taking some form of medication without noteworthy results. All other treatment was discontinued when diapulse therapy was instituted.

Description of Apparatus

The Diapulse apparatus* emits measured bursts of high intensity electromagnetic energy through a drum-shaped treatment head attached to the main cabinet. The intervals between the energy bursts are of sufficient duration to prevent thermal build-up. Depth of penetration, or intensity, can be selected through a range of six steps, as can the repetition rate of the pulsations. A knob and bulb device on the treatment head permits tuning the circuit to resonance with the treated part, in order to achieve optimum output for the particular setting of the machine.

Method of Application

In general, the procedure described by Levy⁵ was found to be satisfactory. The pa-

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*Manufactured by Diapulse Corporation of America, 350 Fifth Avenue, New York, N. Y. 10001.

tient sits beside or lies under the treatment head.

Therapy was directed first to the sinuses, at settings of 600 pulses per second and 6 penetration (600-6). In order to prevent atmospheric dissipation of the energy, the treatment head was placed as close as possible to the treatment site. Following the local application, treatment was administered at settings of 400-4 to the liver and the spleen, organs recognized as important to the defense reactions of the host.⁷

Clinical experience indicated the optimum duration of application was about ten minutes to each area treated, a total of thirty minutes. During an acute phase of the disease or when pain was intense, daily treatments were administered. After the acute symptoms subsided, the regimen was three treatments a week.

Representative Case Reports

Case 1.

A 77 year old man had nasal discharge and dry, sore throat, accompanied by severe pain. He had a history of chronic sinusitis reflecting the inadequacies of the usual therapeutic measures employed. Roentgenograms of the paranasal sinuses showed decalcification of the ethmoid partitions and thickening of the mucous membrane of the right antrum.

The patient received eight diapulse treatments, with considerable improvement after the third treatment and roentgenographic evidence of complete clearing of the right antrum and ethmoidal sinus by the seventh.

Case 2.

A 22 year old woman developed sudden swelling and tenderness over the entire left side of her face. A similar attack previously had confined her to bed for a month. Roentgenograms showed underdeveloped frontal sinuses with cloudiness of the left frontal sinus.

Six diapulse treatments were given. The swelling was reduced after the third, and disappeared with all other symptoms after the sixth treatment.

Case 3.

A 15 year old girl had early morning cough, increased nasal discharge, and tenderness over the right maxillary area, with some swelling. She had a history of similar episodes with slow recovery. Roentgenograms showed mucous membrane thickening of the right antral lining.

The patient recovered completely after four diapulse treatments, and thickening of the mucous membrane disappeared.

Comment

The important consideration of safety provides a significant argument favoring diapulse therapy. Our experience, as well as that of other clinicians, indicates no appreciable thermal response to treatment, no evidence of intolerance and no apparent contraindication to its use.

None of the 110 patients in this series failed to respond. Ninety-three expressed complete relief of symptoms and the remainder reported substantial relief. Roentgenograms provided corroborative evidence. Because of these unexpectedly encouraging results we intend to continue our use and appraisal of this therapy in the management of sinusitis and related disorders.

It is possible that in especially severe cases or in chronic disease appropriate medication, irrigation, drainage or other measures will be required. In such cases, it appears that diapulse therapy will constitute highly useful adjunctive and supportive therapy.

Summary

Based on its possible role in stimulating the host defense mechanism, diapulse therapy was evaluated in 110 cases of subacute sinusitis.

There was no evidence of adverse effect, and all of the patients showed positive response to therapy. No contraindications to the use of this modality were apparent.

If these results can be further substantiated we may stand on the threshold of significant advance in the management of the patient with sinusitis.

References will be supplied by the Journal on request.

HEALTH STATISTICS USED IN "ERRATIC NUMBERS GAME"

- The author points out that "statistics are a complement, not a substitute, for trained intellect and common sense." Concrete examples are given of how health statistics can distort the current picture of medicine.

JAMES Z. APPEL, M.D.

American medicine is being harassed by an erratic sort of numbers game.

This "game", sans referee, is played with vital statistics—the numerical charts and tables that help pinpoint health problems. But instead of applying statistics objectively to disease problems, certain critics are wetting them into weapons intended to discredit medicine as we know it, their chief barb is the contention: "America is not the healthiest nation on earth. Statistics prove American medicine to be inferior to that practiced in certain European countries." The usual examples cited are England and Sweden.

Understandably, American physicians are not taking kindly to the goading. For if the international comparison of statistics shows anything, it can show that the opposite is probably true: that American medicine is second to none.

The divergence of opinion isn't the fault of statistics. Rather, it's the interpretation to which statistics are subjected after being wrenched from their intended use.

As a matter of fact, health statistics are a poor means of measuring one nation's medicine with another. Those who are undoubtedly in the best position to judge—medical leaders from countries with the most favorable-appearing statistics—readily agree on this.

"The worth of statistical comparisons is over-emphasized, to say the least," according

to Stanley S. B. Gilder, M.D., a British physician and executive editor of the *World Medical Journal*. "There is simply no correlation between health statistics of the United States and those of Europe. To argue statistics from one country to another is ridiculous."

Nevertheless, the argument persists, augmented by material from the United Nation's *Demographic Yearbook* a tome cataloguing the world's population, birth rate, marital status and the manner in which people die.

Without doubt the *Demographic Yearbook* is the best archive of its type ever amassed. But it is not without drawbacks. Data collecting systems and reliability vary from country to country. Furthermore, events may be interpreted differently. What one nation lists as a live birth, another lists as a stillbirth. Some nations do not even include data on minority races living within their boundaries. For these reasons yearbook editors warn against the fallacy of jumping to unwarranted conclusions.

Fallacy or not, comparisons are made, and on meager data. The charge that American medicine must take a back seat to foreign medicine most often is based on just two of the numerous tables in the yearbook. One denotes life expectancy; the other the infant mortality rate—the number of deaths among infants under one year compared with the number of live births.

Since the figures do show that in America the infant mortality rate is higher and life

Dr. Appel is President, American Medical Association.

expectancy somewhat less than in England, Sweden and certain other small countries, this is offered as proof positive that we have inferior medicine.

On the surface it looks like a compelling argument, but perhaps only because so much is left unsaid.

No one wants to argue with the statistics themselves. The physicians who help bring babies into the world are certainly far from satisfied with our infant mortality rate. We have been and will continue to strive to lower it. So will Swedish and English physicians, who probably aren't satisfied with their rates either.

But importing European practices isn't going to change our statistics one iota. Europe itself has already proven this. For example, although North Ireland and Scotland both adopted the English system of medicine, both are still worse off statistically than the United States. So, for that matter, are France, Italy and Germany, according to the *Demographic Yearbook*.

The point is: Comparing the vast melting pot that is the United States with the small, close-knit nations of Europe, may well be comparing the incomparable.

Waldo von Greyerz, M.D., Swedish delegate to the World Medical Association, thinks so. He has pointed out: "Sweden is a homogeneous nation, impossible to equate with the vastness of your country. The north and south of Sweden are virtually the same. Certainly this is not true in America.

"I don't know how you would compare medicine in Sweden, where we may be over-organized, with medicine in America. It surely can't be done with infant mortality and longevity statistics.

"People who do compare such things obviously are hunting for headlines."

It is, of course, a matter of record that Sweden's infant mortality rate is one percentage point below that of the United States and that the average Swede lives to age 73 and the average American to age 70.3.

But it is also a matter of record that a Swede in Minnesota outlives a Swede in Sweden, and, furthermore, that suicides occur with much more frequency in Sweden than in the United States.

But quoting such statistics proves what? Are we really gauging medicine or are we gauging something else?

The point is no one knows, for the data can be applied in various areas.

They can be applied in genetics for example. Longevity is to some extent an inherited trait, and the extended life span of the Swedes may merely attest to this fact. As for the lower infant mortality rate, this may well demonstrate that genetically Swedes tend to be a large, robust people; and all else being equal, a woman of this type has a less complicated delivery than a smaller woman.

On the other hand, we can use the year-book figures to show the possible effect of climate on life-span. We can show, for example, that while overall the average Englishman lives about half a year longer than the average American, those Americans living in a climatic belt roughly equivalent to England's live just as long . . . in fact perhaps a little longer.

Furthermore, when you start comparing one nation's statistics with another's, it's not always certain that you're comparing exactly the same events.

To use Sweden again: A baby is not considered born alive there unless he actually breathes. In this country, if there is heart beat, movement of the voluntary muscles or pulsation of the umbilical cord, it is considered a live birth, whether or not the baby ever takes a breath.

Thus a child born with a beating heart but without the strength to breathe would be considered an infant mortality in the United States (a baby which was born alive and died). In Sweden, such a child would be listed as a still birth and not reflect on their infant mortality rate.

In some other nations, a baby is not legally

born alive until his birth is registered with civil officials, or he is baptized—technicalities that might not take place for a week or so after birth.

Nor is this all that has to be considered in arriving at a true picture of infant mortality, in contrast to a statistical picture.

There is the matter of foetal death rate, for example, which in England and Sweden is higher than here. From this a person with blind faith in statistics could conclude that American physicians are bringing babes into the world who would die in the womb in these other nations.

Also, it is difficult to talk about infant mortality without talking about abortion, which is legal in Sweden. There a defective fetus can be destroyed before birth, which has the effect of lowering the infant mortality rate.

Even if it were possible to shuffle and adjust infant mortality and longevity figures to take into account differences in genetics, climate, the law and reporting systems, it's still not certain whether you would have a yardstick for measuring medicine.

Certainly you can't gauge a nation's medicine without considering its medical progress. And no nation can match the United States in terms of progress.

The United States has made more important drug discoveries in the last 20 years than all the rest of the world combined—broad-spectrum antibiotics, steroids, tranquilizers and radioactive materials—not to mention all the other advances, such as measles and polio vaccine and open heart surgery.

Then too, consider that during the post-war years while we were constructing 763 new hospitals, England built one.

Whether in fact it is possible to come up with an international medical yardstick has not yet been determined, although the matter has been given study by the World Health Organization.

One method, given some consideration, is the comparison of the causes of death. Such

a reckoning would show the United States well ahead of any other nation.

Consider cancer. In the United States the death rate from cancer is well below that of any other Western nation. Since many cases of cancer are treatable, the lower death rate of the United States could be construed to mean that medical treatment in this country is better.

The same generally holds true for many other diseases — tuberculosis, pneumonia, strokes and influenza. All these are treatable to some degree, and all produce fewer deaths per capita in America than in Western Europe.

Undoubtedly these statistics, when used for international comparisons, suffer some of the same shortcomings as the infant mortality and longevity figures. But by ignoring these shortcomings—as do those who shape statistics into barbs against American medicine—the claim can be made that "America has the best medicine in the world." It's also possible to add, "Statistics prove it."

Even the fact that the opposite holds true for death from heart disease—that our rate is higher than Western Europe's—doesn't necessarily refute this claim. For, the causes of heart disease are not well understood.

Diet and obesity may or may not be implicated. But there is enough evidence in support of this theory so that no nation-by-nation comparison of heart disease is possible without comparing diets also. And, when we start considering a nation's food intake we're no longer talking medicine. We're talking economics.

We're also, to a large extent talking economics when it comes to automobile fatalities. Because Americans own more cars and drive more miles at greater speeds over congested highways, they die more frequently behind the wheel than Europeans. And these fatalities are a large factor in lowering our nation's life expectancy.

In the same way that America's economy blossoms into overweight, and auto deaths,
(Continued on Page 96)

Hobbies

BOUND SOUTH

FOR BARBADOS

J. RICHARD DURHAM, M.D.



The author, wearing a Mae West, standing next to his plane—
The Southern 222B—taken in St. Lucia, British West Indies.

A long time ago . . . twenty-five years, in fact . . . I crammed my long frame into a tiny, frail, fabric-covered airplane and found, at last, my element . . . air. Flying was not so fancy, or complicated, then, as it is now. There were plenty of grass-strip, towerless airfields, and the tyro had no real need of a radio. A pilot learned to interpret weather reports and speak learnedly of dewpoint, temperature and barometric pressure. The sky became forever a "ceiling," the shapes of clouds assumed strange portents, and "visibilities" had limits downward beyond which no man dared to go. This smattering of meteorology, elementary navigation, and a course on the rules governing aeronautics constituted his ground school, and in no way interfered in his love affair with the little ship tied down "on the line." Hangers were uncommon then. Long rows of planes tethered on the grass were the rule. Oh! the window shopping that went on . . . the loving pats on the fuselage, the envious glances at the high-powered motor!

Once the course to destination was drawn out on the chart, and gas and time estimates were made, the pilot took off and was on his own . . . no magpie tower . . . just the blissful, ear-splitting, plane-rattling noise of his 65, 85 or (this truly would be a swifty!) 95 H.P.

engine! Airborne, he sat, master of all he surveyed, alone, above all and beyond all. In those days, except in the vicinity of airports, another plane was a fairly infrequent sight. Nothing to do now, but clear the engine once in awhile and cast a glance at the sparse array of instruments on the panel before him. He had a wonderful feeling of competence when the first check point came into sight, right on course. He zealously checked the actual time against his estimate and made the necessary revisions on the expected time of arrival at the next point. He watched for highways, and railroads and high-tension lines. Small race tracks and even farmer's ponds were navigational aids. At last, there he was, zipping in at fifty-five m.p.h., to land at his destination. He did a little hanger flying and weather checking while his plane was gassed, and then, once more, the familiar routine of "off!" "Off!", "Brakes." "Brakes!", "Contact!", as the airport operator or mechanic twirled his propeller for him. Down he trundled to be on his way once more . . . this aviation was mine.

World War II came and gave aviation a boost and speeded me into the Air Corps. Although most of my flying as a Flight Surgeon had to be as a passenger, pilots are an obliging lot and I managed to log some time

on aircraft whose trimness and speed filled me with awe, plus a gnawing ambition to be pilot in command of such a ship.

Back in civilian life, I first rented a Piper Super Cruiser. It still was a rudimentarily equipped aircraft with a stick on the floor, but it held my wife and son. Our first long (?) trip together was a visit to Dr. and Mrs. L. C. McGee at their vacation cabin in Elkins, West Virginia. I remember that, on the way, we flew over the wreckage of an airliner lying burned out on top of a mountain. My passengers got very quiet. The West Virginia mountains are formidable for a tiny plane, and Elkins, itself, is ringed with them. Since then, we have flown over mountains three times as high, much more rugged and forbidding; but, in flying, it is the first time that is the time a challenge is met and conquered, and remembered. Next time it's routine.

I decided to take advantage of Uncle Sam's offer to further my education and settled down to win my Twin-engine, Commercial and Instrument licenses. This finally led me to purchase my first aircraft, a lumbering old Stinson, well-equipped but with old-fashioned instruments. We used our ears, not our eyes, for radio signals to guide us in strument flying. Now, outside of identifying the station, we follow a trusty visual signal to our destination.

We lived happily with the Stinson for several years, using it to ferry our son to and from his school on Long Island, visiting Canada and flying to medical meetings. Actually, the Stinson had dropped into my lap, or I might never have made this big step. I had a patient who was forced to retire from flying and wanted to get rid of his plane. Who could be more natural for first bidder but his doctor! Dr. James Flanders, his attending physician, sent him to Mayo Clinic for surgical correction of his abdominal aortic thrombosis. Naturally, he flew his plane both ways!

By now, I was flying to Rehoboth Airport for consultations at Beebe Hospital, to Dover, to Milford, and even to Elkton. The travel-time saving was considerable. Acquaintance with other fliers soon brought them to my

office for their aviation physicals, often followed by other medical service required by them or their families. Gradually, this old hobby of mine became an important part of my medical practice in my capacity as Airline Medical Examiner and a member of the Medical Advisory Panel to the Federal Aviation Agency. I not only like my hobby . . . I use it!

About this time (1954) a mysterious Miss Brewster started flying lessons. Every morning at eight o'clock she practiced stalls practically outside our bedroom window. Miss Brewster turned out to be Mrs. Norman Cutler, whose doctor-husband had started flying after the war. She wanted to surprise him and not let him know what she was doing until after she had made her solo flight. This inspired my wife, Gloria, to do the same, except, typically, she couldn't keep her secret very long! However, she did get her private license and hove the old Stinson around the field. Her first passenger was me. I was very proud of myself . . . I never offered one word of advice and, a little to my surprise, found myself back on the ground after all! Since then, the flying doctors' families in Wilmington have included, besides the Cutlers, the Phillip Gordys (now Professor of Neurosurgery at Jefferson Medical College), the Morton Kaisers (she flies too), the Joseph Hughes, Marge Conrad, and, lately, Bob Beattie.

The Stinson was traded in on a Beechcraft Bonanza, which gave us a wider range and carried us to medical meetings from Florida to California. We joined the Flying Physicians, an organization of doctors who fly and are organized to offer quick assistance via air in case of major disaster in their areas. The Flying Physicians hold regional and national meetings devoted to aspects of medicine as it concerns the pilot, and the acquisition of safer and more proficient skills for the medical pilot.

While we had the first Bonanza, we entered into a corporation with Phil Gordy called "Seaboard Airways." It was Phil's brainchild. He had his Bonanza altered so that it would carry a stretcher on which we could transport a corpse, whose burial was to take place in another part of the country. We

promptly nicknamed the corporation "Stiff Airways" and even gave it a slogan, "You haven't Died Until You Have Flown With Us!" The enterprise failed . . . for lack of a corpse, although we canvassed all the undertakers. Unfortunately, for us they wanted to include the coffin with the stiff, the coffin being a mere twenty times too large to be carried in a Bonanza! Neither did we receive any help from the medical profession. Presumably, all patients remained L and W, as usual! The corporation was dissolved . . . sic non transit corpus!

We acquired a new Bonanza . . . new to us, that is. This one is still with us, loaded with beautiful instruments and wing-tip tanks that enormously increase our range. We have published several articles about our flights in this single-engine aircraft, the last one about a nearly six-thousand mile round-trip to Barbados in preparation for this year's Flying Physician meeting there. We rendezvoused with Ruth and Norm Cutler at Rock Sound in the Bahamas. They were on their way from Naples, Florida, to Jamaica. They have a twin-engine plane (twin-Bonanza) and they were carting, in addition to Ruth's very handsome cruise clothes, four sets of golf clubs and even two extra people to play with. That's traveling deluxe! We had a gay evening of dancing and flew out on our separate ways in the morning.

We stopped in St. Lucia, about one hundred miles to the west of Barbados to visit my brother, Davis, at his banana plantation, there. We arrived in a driving rain, making the over-water approach to the runway, which extends

to the very edge of the ocean on one end and into the side of a precipitous mountain on the other. In this moment of dim visibility, the mountain looked lots closer than it was! The West Indies are all mountainous and generally have clouds obscuring the mountain peaks. The constant rainfall makes them very beautiful and lush.

My brother had sent the plantation manager to meet us. Still in driving rain, we ascended, descended, ascended, descended, by car . . . whirling about switchback turns and skirting cliff edges precariously. Dangerous, these cars! Badly shaken, we were greeted upon our arrival with a little of the local medicine (R U M). We recovered nicely, thank you.

A few days later, we got up early and flew over to Barbados for breakfast on a balcony overlooking the harbor in Bridgewater. We visited their huge, new, six-hundred bed Queen's Hospital to arrange for the scientific sessions of the Flying Physicians' Association. We shopped a bit, dispatched our business with the airport (tying down the mass flight of one hundred Flying Physicians' planes expected to land at minute or so intervals is no mean chore) and flew back in time for dinner on St. Lucia.

No schedules to meet, no getting told your seat is not available . . . get up and go when you want . . . that's the convenience of private flying! Out over the ocean, out of sight of land, no ship passing beneath, no other aircraft visible, our faithful little engine purring and a big sun blazing up over the horizon . . . that's living!

1966 AMA ANNUAL CONVENTION

The Convention will be held in Chicago, June 26-30; the Scientific Program will be at McCormick Place, and the House of Delegates will convene at the Palmer House.

Population expansion will be one of six topics presented in the general scientific sessions; other subjects will be emphysema, burns, mysterious fevers, community hospital coronary care units and headache. Both medical motion pictures and color television will be presented daily. A special feature will be guided tours of AMA Headquarters and the new Institute for Biomedical Research. The entire scientific program will be published in the May 9 issue of JAMA.



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



DRUG ABUSE CONTROL AMENDMENTS

The Drug Abuse Control Amendments of 1965 often times referred to as H.R. 2 became effective February 1, 1966. At the present time the only two categories that need special attention are medicaments which are composed of pure amphetamines, pure barbiturates, and combinations of these two. Each pharmacist and each physician regularly engaged in the dispensing of these medicinals must have a starting inventory as of February 1, 1966 and must maintain records of their purchase and disposal. For the dispensing physician this means accurate records of receipt from the pharmacist and or manufacturer and detailed information on the patient's chart as to disposition.

Each prescription order should contain the patient's name and address, date of issue, or this information may be supplied orally to the pharmacist who will reduce it to writing for his record. The prescription order may be renewed five times over a period of six months within the dosage regimen if the physician indicates his renewal requirements. The pharmacist often times is faced with a difficult situation when the physician has written the directions "as directed." The pharmacist does not have at his command any measure as to the accuracy of the dosage as indicated to the patient by the physician. If such directions can be avoided the professional responsibility of the pharmacist can be carried out with more diligence and patient health and safety will be maintained at a higher level.

To avoid delays to your patient for prescription service, it is advisable to indicate the number of renewals you desire for prescriptions. This advice is true of not only the medicaments covered under HR2, but for all prescriptions. Many times to alleviate this condition you may employ the term "PRN." From a standpoint of regulatory enforcement, it would be better to indicate either the number of renewals desired or a length of time to honor requests for renewals. This allows for better patient control in the area of medication.

Check list for Drug Abuse Control Amendment:

- 1) Inventory all amphetamines, barbiturates, combinations of these two as of February 1, 1966.
- 2) Keep a record of receipt and disposition of all depressant or stimulant medicaments.
- 3) Patient's name and address and date of issue should appear on the written prescription (excellent thought for all prescriptions).
- 4) Indicate the number of renewals desired (up to five over six months after issue will be honored).
- 5) Please feel free to contact the pharmacist who provides you with pharmaceutical service, if there are any questions which perplex you on this subject.

Editorials

CORONARY CARE UNIT

Myocardial infarction itself does not kill. Rather, death follows one of the many complications or sequelae such as heart failure, shock, and arrhythmia to name but a few.

At the present time most patients in this area who have a myocardial infarction are treated in a hospital. Adequate measures are set up to detect and treat any of the complications that might arise. In some instances—such as shock—the diagnostic methods are excellent but the therapeutic measures are lacking. We can do nothing about complications of this type until newer and better methods of treatment are available.

With the arrhythmias, however, we now have excellent methods of both diagnosis and treatment. The only problem is one of time. If a patient develops a cardiac arrhythmia capable of seriously impeding the cerebral circulation and if this is not corrected within a maximum of four minutes, permanent brain damage will ensue regardless of any favorable treatment of the arrhythmia. In this type of patient, therefore, speed in diagnosis and institution of treatment is essential.

At the present time such speed is available if the patient happens to be in an intensive care unit at the time the arrhythmia begins. On the other hand, if he is in a regular medical bed under routine medical care, there may be a considerable length of time before the arrhythmia is discovered and, after discovery, there will be an additional period prior to the institution of proper treatment.

All patients with acute myocardial infarction are susceptible to fatal arrhythmias. Such susceptibility is present for varying periods of time but most such episodes occur within 72 hours of onset of the attack. It seems, therefore, that if this problem is to be solved it must be done in one of two ways.

Either every patient, regardless of his location in the hospital, should be wired for electrical monitoring during the first 72 hours of his infarct or until such time as he appears to be electrically stable and such data collected in a central point from which immediate help could be sent. In this day and age of computers, it seems reasonable to think of a computer system which would take in information from any patient regardless of his location in the hospital as long as proper electrodes were applied and, in turn, would be able to institute proper treatment. While this solution is logical, it obviously will not be available within the foreseeable future.

The other solution is an extension of our present concept of intensive care unit. This would be a coronary care unit but of a magnitude far greater than that present in any of our intensive care units of today. To be effective, a coronary care unit must consist of sufficient beds so that every patient admitted to a hospital with a diagnosis of acute myocardial infarction could go into this unit directly and stay there until such time as his physician decided that any danger of electrical imbalance had passed. The tremendous life saving advantage that this system would have over our present intensive care unit is obvious. The present practice of moving the patient from his routine hospital bed to an intensive care unit, a procedure not infrequently taking more than four minutes which, on top of the fact that many of these arrhythmias go unrecognized for some time before action is taken, often makes the difference between life and death.

To have such a coronary care unit would demand a tremendous number of beds and much expensive equipment. The question arises as to its worth and, in our opinion, the answer is very simple. Every life saved by such a system, regardless of its cost, would certainly make it worthwhile.

President's Page

EARLY SURVEY OF PREVAILING FEE PROGRAM

Last April, upon the recommendation of its Prepayment Committee, the Council of the Medical Society of Delaware took an historic step. It became the first medical society in the country to authorize the offering of a prevailing fee type program. With many reservations, and a number of questions unanswered, it was voted to offer this program on a limited basis to the motors industry, as much to determine the attitude of the doctors toward a program of this nature over which they assumed full responsibility, as to sound out public response.

The natural question now is—how is it working?

Today seems a little early to be offering an appraisal of the program. After all, it went into effect only in August. Moreover, it has been limited to one group, albeit this group was large enough to offer us useful experience. But the apparent success of this venture to date, at a time when medicine is earnestly and honestly seeking answers to questions related to the provision of medical care on a voluntary basis, makes it indeed worthy of the attention of every doctor in our state.

Notwithstanding its newness, a very large percentage of the doctors in active practice are now "participating physicians." Many, in an effort to make this program a success, made minor adjustments in their fees to conform to the "90th percentile." A number of us spent long hours in thrashing out details before the program went into operation, and all of us watched with interest its inauguration at the Chrysler Corporation, where it was put into effect for nearly 6,000 workers' contracts representing almost 20,000 people.

The results have brought national prominence. Many medical societies throughout the

country are moving toward the adoption of similar programs. To date more than thirty areas have plans underway for implementing programs.

The enthusiasm, of course, hasn't been unanimous. Honest doubts remain on the part of numerous medical societies and, certainly, on the part of some doctors in Delaware.

It shouldn't be otherwise. The prevailing fee program offers a reasonable hope of resolving the service contract dilemma under our particular circumstances. We will be as helpful as we can to any sister society that wants to draw on our experience, but we don't regard the program as one that should necessarily supercede satisfactory arrangements elsewhere. In the same way, the new contract appears to fit into the majority of practices well enough, but the evaluation of the physician who feels that his circumstances are exceptional should be respected.

The early experience is good. To date over 2,000 cases have been covered under the new program. In only three instances have doctors requested payment other than their normal fees, and these were instances where the case was of an extraordinary nature in some respect and unusual services were performed. Not a complaint has been received about the program. More and more doctors have signified their intention to participate. An improved relationship has been established thereby with the public, reflecting itself in a better image of the medical profession. All of this has been done.

A. M. Gschret

In Brief

New Research Program

A program to apply engineering knowledge to problems in medicine will be set up at Columbia University under a grant from the National Institute of General Medical Sciences, NIH. Funds were made available by the Heart, Cancer, and Stroke Amendments of 1965 because of unexpected developments in advanced instrumentation for biomedical and clinical research purposes. Planned projects include: studies of the metabolic affect of anesthetics in man, the uptake and distribution of anesthetic agents (especially in infants and children), and thermal influences upon metabolism in premature infants; the measurement of oxygen intake; the distribution of tracer materials, and further refinements in the art of measuring and recording parameters of interest in shock. The Center will enable a bioengineer to collaborate with medical personnel within the framework of a medical school.

"Dat Ole Debil" Cigarette

Death rates for cigarette smokers remained fairly constant over the 8½-year study of 250,000 U.S. veterans, while rates for non-smokers went down. Findings show that: Eleven times as many cigarette smokers as non-smokers died of lung cancer. Twelve times as many died of emphysema; 3 more times as many cigarette smokers as non-smokers died of cancer of the mouth, pharynx, esophagus or larynx and such diseases as bronchitis, asthma, stomach ulcer, duodenal ulcer, and non-syphilitic aneurysm of the aorta. *U.S. Public Health Service*

Cancer Statistics

Among patients operated on for lung cancer, women live longer than men, according to a report from the National Cancer Institute, NIH. Factors pointing to this difference in survival rates are: type of tumor, extent of disease, and amount of surgery performed. Adenocarcinomas and alveolar cell tumors were found to occur three times more frequently in women than in men, with survival rates higher for women. The most common type of lung cancer in men is epidermoid carcinoma. Among both men and women with adenocarcinomas or alveolar cell tumors, 3 of every 4 had growths confined to one lobe; while among patients with epidermoid carcinomas, women were more likely than men to have a tumor of limited extent.

Fraudulent Mail Order Scheme

A Federal Grand Jury indicted three men for operating a fraudulent nationwide mail order scheme to sell vitamins and food supplements on the basis of faked medical laboratory reports. They had devised a scheme whereby approximately 120,000 worthless urine tests were made over a 15-year period at the cost of \$30 to each patient. Defendants offered a \$15 rebate to medical practitioners for each urine test submitted; claimed to have performed a "revolutionary" low-cost laboratory procedure for speedy hormone assays of urine samples when actually these were faked; found a hormonal "imbalance" in each patient, that allegedly reflected a condition of "nutritional deficiency;" claimed that this deficiency could be corrected through the purchase and use of food supplement products offered for sale by the defendants through Professional Foods of Cedar Rapids, Iowa. *Information Service, U.S. Post Office, Washington, D.C.*

**Speakers On
"Doctor's House
Call"**

Speakers scheduled for April on the Tuesday radio program, (11:05 a.m. WDEL) produced by the Medical Society of Delaware are: April 5: Alfred Lazarus, M.D., "Jaundice;" April 12: Girard S. Serino, M.D., "Surgical Treatment of Ulcers;" April 19: William O. LaMotte, Jr., M.D., "Medicare;" April 26: Albert Dworkin, M.D., "Cesarean Section."

**Statement
On "Elipten"**

Elipten was recalled from the market at the request of the FDA on grounds that its producers (*Ciba*) had withheld from the agency the results of pre-clearance animal tests and had failed to release some later reports by doctors on clinical experience. *Ciba* has denied these charges. The FDA added, "Experience since the drug has been on the market (1960) shows that in some children it causes sexual precocity, masculinization of young teenagers and other untoward effects. In view of facts, we found it necessary to request immediate withdrawal of the product from the market." In a letter to physicians, (Feb. 16), *Ciba* stated that the FDA had agreed to permit it to furnish physicians who requested it, "Sufficient supplies to permit patients now on *Elipten* to be tapered off and transferred to other anti-convulsant drugs." The Epilepsy Foundation is making additional inquiries and will make every effort to keep the public fully informed on this matter.

**Home Health
Service Grants**

Delaware is one of the 27 states awarded a grant from the Federal State Formula Grant Fund to encourage augmentation of home health services in its communities. Funds were apportioned on a formula based on the numbers of aged and the state income level. Grants are distributed following approval of the state's plan to help home health agencies already in existence to qualify under Medicare standards, and to develop new agencies for communities where this important resource is lacking. Home health services are expected to increase with the new Medicare legislation.

**Measles
Vaccine**

The U.S. Public Health Service will buy at least 1½ million doses of vaccine during the next year to protect pre-school children against measles. The vaccine will be offered to health departments receiving project grants under the National Vaccination Assistance Act. PHS will pay 68c a dose for the vaccine, including gamma globulin to be used in conjunction with it to minimize reactions.

**A Decision
On Drunkenness**

On January 12, 1966, the U.S. Court of Appeals for the Fourth Circuit held that a chronic alcoholic suffers from sickness and cannot be prosecuted for public drunkenness. In the case of a Durham, N.C., man who had been convicted of public drunkenness more than 200 times and had spent about two-thirds of his life in jail, the judge's opinion said: "*The upshot of our decision is that the state cannot stamp an unpretending chronic alcoholic as a criminal if his drunken public display is involuntary as a result of the disease.*" *National Association of State Mental Health Program Directors.*

**New AMA
Publication**

"*Guides to the Evaluation of Permanent Impairment to the Respiratory System*" which is the eighth in the series entitled "Guides to the Evaluation of Permanent Impairment" is now available through the AMA. A limited number of copies may be obtained without charge upon written request to the Committee on Rating of Mental and Physical Impairment.

Stevens-Johnson Syndrome —

Reports have accumulated since 1957 concerning the association of Stevens-Johnson syndrome (erythema multiforme exudativum) with use of long-acting sulfonamides.

This complication carries a mortality rate of 25 per cent. Of the 116 cases reported to date 81 have come from this country, two-thirds were children, and all were related to the use of long-acting sulfonamides. The short-acting sulfonamides have not been implicated as yet and their use should be weighed before employing sulfonamides characterized by long-lasting blood levels and slow excretion.

All patients receiving the long-acting sulfonamides listed below should be closely followed and if a rash develops during therapy the drug should be discontinued immediately.

Drug Warning

Lederle Laboratories, Division of American Cyanamid Company:

Kynex (sulfamethoxypyridazine) tablets

Kynex Acetyl (n' acetyl sulfamethoxypyridazine), pediatric suspension
Azo Kynex (phenylazodiaminopyridine HCL sulfamethoxypyridazine) tablets

Parke, Davis and Company:

Midicel (sulfamethoxypyridazine) tablets

Midicel Acetyl suspension (n' acetyl sulfamethoxypyridazine)

Roche Laboratories:

Madribon (sulfadimethoxine) tables, chewable tablets, suspension, pediatric drops

Madricidin capsules: Each capsule contains sulfadimethoxine, phenindamine tartrate, acetaminophen, and caffeine.

A calculated mortality risk of 25 per cent is high. In matters of life and death their use may be considered seriously but not otherwise.

New York State Journal of Medicine

ERRATIC NUMBERS

(Continued from Page 87)

so too do customs, environment, the pressures of making a living and factors such as educational levels have their effect on health.

Indeed, health statistics can be just as representative of a nation's social patterns as its mode of medicine.

This is borne out by gerontologists (medical specialists in the problems of aging). Edward Bortz, M.D., past president of the American Geriatrics Society, has said again and again that Americans could live an average of 100 years if we'd just knuckle down to what we know is good for us and practice a little moderation. Instead, we go in for self-inflicted excess—too much alcohol, too much tobacco, too much caffeine and too many hours spent in an easy chair—all springing from habit, custom and our economy.

In dealing with any statistic, its basic nature

must be understood. A statistic is a fact—the result of a survey—and that's all it is. Conjectures made on such a statistic are not facts. They are conjectures.

Nevertheless, the assault by figures goes on as if there were no reality and no meaning except what can be wrung from this chart or that table.

It seems to be a phenomenon of our time that all that is necessary to prove your point is to preface it with those magical words: "According to statistics . . ."

Statistics, of course, are important. Used properly, they can lead to valid conclusions. Used improperly, however, they can "prove" any preconceived conclusion. The point is, statistics are a complement, not a substitute, for trained intellect and common sense. They pose questions, they don't answer them. They are slaves, not masters.



Delaware Academy of General Practice

SEMINAR DETAILS

The Delaware Academy of General Practice has completed its basic seminar and course schedule for the coming year. It is reprinted below so that physicians may know what will be offered. All physicians are always welcome at DAGP educational meetings.

In accord with the By-Law change adopted at the March 1 meeting, there will be regular meetings, involving a scientific speaker and a business session, on the first Tuesday evening of odd numbered months, excluding July. A fall seminar will be held in October to replace the educational hours lost by dispensing with monthly meetings.

The spring seminar will be held April 30 at the Delaware Academy of Medicine. Presented in cooperation with the Committee on Public Laws of the Medical Society of Delaware, it will be devoted to a discussion of what physicians need to know about the Medicare program. A final, detailed agenda will not be agreed upon until nearer the date, to allow the sponsors to incorporate the most recent information. When available, it will be mailed to each physician.

The fall seminar will be held October 29, also at the Academy. It will deal with industrial medicine, in recognition of the fact that the majority of general practitioners do at least some industrial work. The Delaware

Industrial Medical Association will co-sponsor the presentation. Problems of trauma, alcoholism, psychiatric aspects of absenteeism and medico-legal responsibilities will be covered.

Temple University School of Medicine will cooperate to present the DAGP fall course. This will be a 30-hour course, presented in 3-hour Wednesday afternoon sessions, beginning September 14. The subject matter will be divided among office gynecology and office psychiatry, with emphasis on marital counselling.

The annual meeting, an all-day scientific session will be held on December 3.

The psychiatric seminar series is finishing its third year, and has been highly successful. Present plans, subject, among other things, to continuing support from the United States Public Health Service call for it to be extended into 1967, and for the establishment of a separate series in Dover to give more doctors from the southern part of the state an opportunity to participate. Obviously, no more can be promised until the grant request has been acted upon.

Naturally, the details of this 1966 program are subject to change if it becomes necessary. Hopefully, however, this outline will be helpful in your planning.

NEW MEMBERS

The Delaware Academy of General Practice is pleased to welcome Dr. Joachim Ch'ih, Dr. Alexander Cordova, and Dr. Barrie L. Weisman to active membership and Dr. Philip L. Rothbart to associate membership. Dr. Ch'ih is physician to the Delaware Home and Hospital for the Chronically Ill at Smyrna. Dr. Cordova is in solo practice in Newark, and Dr. Weisman is in private practice with Drs. Ethel and David Platt and Dr. Leo Sherman in Wilmington. Dr. Rothbart is in solo practice in Wilmington.

Auxiliary Affairs

PRE-SCHOOL VISION SCREENING

The Woman's Auxiliary to the New Castle County Medical Society is currently planning a program of Pre-School Vision Screening for detection of amblyopia. Since there has been so much concern about the relatively high incidence of this defect in our population; and the defect can still be corrected with the best results if discovered in the pre-school years; the Auxiliary considered it a worthwhile project.

After obtaining the approval of the New Castle County Medical Society and the State Board of Health, a decision was made to initiate our program by incorporating with "Operation Headstart," which is under the direction of Mrs. Daisy Delaney.

A project Advisory Committee, consisting of: Dr. Davis G. Durham, Dr. David A. Levitsky, Dr. Floyd Hudson, Mrs. Eleanor Belflint, Miss Mary McQuade, Mr. Thomas Mulrooney and Mrs. Pierre LeRoy was formed to set up the screening methods to be used and the criteria for referral to the Delaware Eye Clinic. Other details, such as follow-up treatment on children who did not pass the examination on two successive days were also worked out.

Miss Eliabeth Marvin, Field Consultant for the National Society for the Prevention of Blindness, Inc., will conduct a training program for the volunteers from the Auxiliary at the Delaware Academy of Medicine. The volunteers will then work with a group of children from the Headstart Program. After this training, the volunteers will be assigned, in groups of three, to conduct the screenings of the 600-700 children attending the 20 odd centers of Operation Headstart. If this effort proves to be successful, the Auxiliary plans to expand its community service to the many surrounding school districts in the future.

Attention All Doctors' Wives:

The Health Careers and Recruitment Committee needs your Help! Long range

plans are underway to give our Nurses' Scholarship fund the boost it badly needs. It was decided to collect favorite dishes of Delaware Doctors, and this naturally calls for your cooperation. We would like at least two recipes from each Doctor's wife. If the recipe is from his native country or state, so much the better. If you send your recipe as soon as possible, we will be on our way toward compiling our Cookbook. Please mail any recipes to Mrs. Joseph J. Davalos, 1702 Talley Road, Forest Hills Park, Wilmington, Delaware 19803.

Your Husband:

How can the wife of a physician be of greatest service to her husband? With temerity I present these suggestions.

Make his home life happy. He may be the technical head of the house and pay all the bills, but it is still his wife around whom the home and family is built. Help to make his home a source of companionship, pleasure and relaxation. Be patient and sympathetic with the interruptions and irregular hours which are part of a doctor's life. Keep the family together as a unit and see to it that his children really know their dad.

Try to understand his moods. His daily work deals with problems, many of which are emotional. When he comes home and seems depressed, don't make it worse by telling him all of your troubles. If he is sitting on top of the world, get up there with him. If your husband tells you something about one of his patients, lock up the information — don't spread it around at the next bridge table.

Help him to keep up to date in his professional work. Encourage him to go to seminars and medical meetings. Try to keep the goal of service ever before him.

(Abstract from a speech by Dr. Julian Price to the South Carolina Woman's Auxiliary.)

TREATMENT OF CHRONIC OSTEOMYELITIS IN LONG BONES

- A treatment program for chronic osteomyelitis, which has produced most satisfactory results in a series of 27 patients, is outlined by the authors.

G. DEAN MACEWEN, M.D.
HENRY R. COWELL, M.D.

The treatment of osteomyelitis long has been a challenge to orthopaedic surgeons. Once a bone has become infected there is no simple answer to the difficulty, which often leads to chronic or recurrent disability. Drainage may persist indefinitely, or it may recur after many years of inactivity. It may be minimal, or it may be of such amount and odor that the patient is totally incapacitated for work and excluded from society. Pain, too may be associated with the condition. It may be mild, or it may be severe enough to form a handicap. This wide spectrum of possibilities prevents one from assuming a single method of treatment for osteomyelitis of long bones. Instead, the treatment must vary with the individual patient and his response to therapy.

History

In 1923 Orr¹¹⁻¹² reported on two basic approaches to osteomyelitis treatment he had developed and which became common before

the antibiotic era. The first of these required the removal of all necrotic tissue, then to pack open the wound. Orr's second approach was one of rest by immobilizing the part in a plaster cast. The treatment was protracted, and the persistent purulent drainage caused an offensive odor. Following an initial period of optimism in relying only on antibiotics to clear the difficulty, orthopaedic surgeons realized that other methods of treatment must be considered. Knight and Wood⁸ in 1945 and Kelly⁶ in 1946 suggested the use of split thickness skin grafts to cover open osteomyelitic lesions in war wounds; Murray¹⁰ adapted this method in 1962 to the problems of chronic osteomyelitis. In 1960 Goldman⁴ reported on his use of a different method, one based on continuous closed wound irrigation and suction with solutions containing appropriate antibiotics.

The principles of treatment remain the same when surgery is indicated. First,^{11, 12} necrotic and infected tissue is removed from the wound. Second, skin coverage is obtained. Dead space

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is avoided where possible,^{1, 2, 13} but if unavoidable, then the method of irrigation and suction^{3, 4, 9} is used or a split thickness skin graft is placed into the cavity.^{6, 8, 10} Third antibiotics² are used before and after surgery as an adjunct to therapy.

Material

From 1960 through 1965, 27 patients with chronic osteomyelitis of the long bones have been treated in the U. S. Veterans Administration Hospital, Wilmington, Delaware. Of these patients, 8 were infected as a result of injuries during World War II; 8 were infected through injuries while in military service since World War II; and 11 were infected after injuries in civilian accidents. The average duration of osteomyelitis in all patients was 9 years and ranged from 1 year to 36 years. These patients, in most instances, had a record of multiple admissions for osteomyelitis to numerous hospitals with infections serious enough to result in the loss of many months of employment.

TREATMENT

A. Conservative

It is our opinion that all patients deserve a trial of conservative therapy on their first admission to the hospital. This treatment includes rest in bed accompanied by heat and soaks applied in the area involved. An effort is made to improve the patient's general physical condition with iron, vitamins, and appropriate diet. Cultures are obtained from draining wounds and the appropriate antibiotic administered. If no drainage is present, a trial period of antibiotic therapy with a synthetic penicillin may be effective. Patients without drainage usually either completely clear on this regimen, or the area of inflammation becomes localized sufficiently to establish drainage that can be cultured and the indicated antibiotic administered.

Seven patients improved satisfactorily on the program and returned to normal activities.

Only when the patient failed to respond to this conservative treatment or had frequent recurrences of symptoms did we consider operative intervention. The failure rate for conser-

vative treatment may appear to be high, but it must be remembered that most of the patients had been infected for many years and were referred to the Veterans Administration Hospital with long histories of persistent symptoms. Three patients in this series had previous inappropriate major surgical procedures for a relatively minor recurrence of infection after a long period of quiescence. The result was a persistent drainage that required further surgery. If a program of conservative treatment had been used in these cases it is quite possible that the initial surgery could have been avoided, and the persistent drainage prevented.

B. Surgical

1. Removal of Plate & Screws

If continuous or repeated drainage occurs when a plate and screws or an intramedullary nail is present, usually it is desirable to remove the metal. In rare instances of an associated delayed union, it may be desirable to wait until union is established before removing an intramedullary nail. In most cases, however, removal allows the infection to be controlled and often eliminates the symptoms.

We removed plates and screws from 5 of the 27 osteomyelitic cases. The infection rapidly disappeared from 3, and no other treatment was indicated. In the remaining 2, the infection cleared and a definite bone grafting procedure was undertaken later because of an associated nonunion.

2. Sequestrectomy with or without Closed Suction

Removal of a sequestrum observed on a roentgenogram usually is indicated if drainage is persistent or recurrent. On occasion a radioopaque material injected into the sinus will allow a specific identification of the dead material.

If the sequestrum is small and the wound can be closed without significant dead space, it can be closed with success by administering appropriate systemic antibiotics preoperatively and for several weeks after surgery. Three patients warranted the procedure, and primary wound healing was the result in each.

In more complex cases with unavoidable dead space, closed wound suction is applied. Closed wound irrigation can be carried out only after all necrotic tissue, including all dead bone, has been removed by saucerization. The irrigation prevents the formation of an infected hematoma in the dead space and allows the area to fill with healthy fibrous tissue. Following complete debridement, two polyethylene tubes are placed in the wound through separate puncture wounds. This placement is facilitated by a large needle, which may be threaded into the end of the polyethylene tubes. The wound is then closed over the tubing. One tube is used for a continuous irrigation with the appropriate antibiotics. The other tube is used to evacuate the solution by means of continuous suction. Eight to ten liters of irrigation fluid are required daily, and irrigation is continued for at least one month. If the fluid from the exit tube then fails to show growth on a culture after a 24-hour irrigation with saline alone, the tubes may be removed.

Three patients were treated by this procedure. Two healed per primum, and the other continued to have drainage.

3. Saucerization and Skin Grafting

If the bone is extensively involved and there is much scarring in the surrounding soft tissue, usually the patient will not respond to closure even with the use of suction. This individual responds better to saucerization and skin graft. In this procedure, the entire area of necrotic bone is saucerized and the surrounding dense scar in the soft tissue is removed. A thin split thickness skin graft is then placed in the whole cavity and held in place with a pressure dressing. This graft usually can be applied at the time of the debridement, but the procedure can be delayed for two weeks if there is concern that all infected material has not been removed. Systemic antibiotics are administered beginning several days before surgery.

This procedure was followed on four patients in this series. All have healed per primum.

One of the advantages to placing a split thickness skin graft is that the area is entirely

exteriorized. If a small sequestrum or a small infected packet is missed in the depth of the wound, it can drain readily through the overlying skin graft without causing general systemic reaction. Use of a graft prevents a deep abscess that normally must penetrate to the surface through a heavy layer of scar tissue and cause days or even weeks of incapacity.

4. Amputation

An amputation was performed on five patients for two reasons: drainage was present and persistent for a prolonged period of time, or the infection threatened life. One patient required amputation when he developed a squamous cell carcinoma at the drainage site after persistent drainage for 36 years. All patients who were amputated had the prior complicating factor of nonunion of the fracture as well as pain and drainage. We feel that amputation is indicated only in rare instances and that it should be undertaken only after all other therapy has been considered. The decision is not difficult on the discovery of a malignant change or on the presence of a life-threatening infection. In the elective amputation case one must consider whether or not the patient will be more functional with an amputation and prosthesis than with the infected extremity.⁷ We do not consider elective amputation in the upper extremity.

Results

In this series of 27 patients, 7 were satisfactorily improved with conservative therapy and could be discharged from the hospital to return to normal activity. Out of this number, 5 have had no drainage, and 2 had persistent mild drainage. The twenty patients who failed to respond to conservative therapy underwent surgery. Of these patients, five stopped draining after removal of plate and screws. Two patients required bone grafting following the plate and screw removal for an associated nonunion and have done well. Three patients had removal of a sequestrum with no further drainage. Three patients have been treated with closed wound suction irrigation. Two have remained healed and one has continued to drain. Of the four patients who had sauceri-

(Continued on Page 122)

AUTOIMMUNITY IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)*

A PRELIMINARY REPORT

Systemic lupus erythematosus is supposed to be an autoimmune disorder in which the body develops antibodies against its own constituents. In this study we tried to demonstrate that immunologically competent cells such as lymphocytes may show an *in vitro* hypersensitivity to some nuclear and cytoplasmic cell constituents. Peripheral blood lymphocytes from normal subjects and from patients suffering from conditions such as rheumatoid arthritis and systemic lupus erythematosus were cultured by proper techniques. Different substances (desoxyribonucleic acid, ribonucleic acid, histone and nucleohistone) playing the role of antigens were added to the cultures. The cells from the patients with SLE and one with rheumatoid arthritis showed some changes that suggest hypersensitivity of these cells to the antigens.

HELMAN SERRANO, M.D.

Introduction

As yet what has been done in regard to the immunological problems of SLE is:

1. Demonstration of serum factors which behave like antibodies and are directed against some nuclear and cytoplasmic components.

The serum factor responsible for the LE cell phenomenon is considered to be an antibody.^{1,2,3}

There have been found antibodies reacting with nucleoprotein, pure DNA, a "buffer extract" of nuclei and a complement-fixing antibody reacting with histone.

The antibody reacting with the nucleoprotein is probably the LE cell inducing factor itself.^{4,5}

The reactivity of these serum factors with nuclei and nuclear derivatives has been demonstrated by many standard immunological procedures, such as: complement fixation,⁶ precipitation,⁷ hemagglutination,⁸ latex agglutina-

tion,⁹ passive cutaneous anaphylaxis,¹⁰ immunofluorescence,¹¹ and bentonite flocculation.¹²

There is evidence for the presence of antibodies against cytoplasmic cell constituents.^{13,14}

2. The other aspect that has been approached is the production of a "delayed" cutaneous hypersensitivity to autologous leucocytes in the patients with SLE.^{15,16,17}

Other less significant findings have been presented: Positive antiglobulin tests with erythrocytes, both direct and indirect, have been repeatedly obtained in SLE,¹⁸ usually associated with hemolytic anemia. Thrombocytopenia accompanied by platelets agglutinins has also been found.¹⁹

Demonstration of localized gamma globulin in renal lesions of patients with SLE is another fact that may be added to this list.²⁰

Besides these two facts: demonstration of circulating antibodies and a "delayed" hypersensitivity reaction, nothing else (as true immunological process) has been proved.

Taking into consideration that the mono-

*This work was supported by the Clinical Investigation Committee of the Delaware Division, Wilmington Medical Center, Dr. Serrano is Medical Resident.

nuclear cells may be considered to play an important role in almost every immunological process in health and disease, we approached this particular aspect of SLE by using that type of cell in vitro with tissue culture techniques.

There is a great deal of evidence indicating that when bacterial or viral antigens are added to tissue cultures prepared from the tissues of sensitive animals or sensitive human beings, two different types of results may be obtained, depending on the conditions of culture: cells may undergo morphologic or metabolic changes, or mitotic activity.

It has been amply demonstrated that cells derived from spleen, lymph node, bone marrow, buffy coat, liver and various exudates are affected by antigens.

The cell damage is variously described as an inhibition of migration or "growth" or a rounding up, granulation, vacuolization, swelling with final death and desintegration. Stickiness and agglutination of cells, loss of phagocytic power, changes in enzymatic activities as indicated by glucose consumption, oxygen utilization have also been demonstrated.^{21,22,23}

The stimulation to the cell results in transformation into enlarged cells, "blast" type cells and mitotic changes.^{24,25,26}

There is a report made by Hirschhorn in which he claims that the lymphocytes of an eczematous infant are sensitive to some constituents of human skin and suggests that an autoimmunity process may be involved.²⁷

Considering all these evidences we can make this assumption: If we have immunological competent cells from SLE patients and those cells are sensitive to certain antigens such as DNA, nucleoprotein, histone, cell cytoplasmic constituents, it should be possible to demonstrate this sensitivity in vitro.

The Problem of Autoimmunity

There are several approaches to study the problem of autoimmunity in lupus erythematosus.

1. Use of peripheral blood lymphocytes in the

presence of substances such as DNA, RNA, histone and nucleohistone playing the role of antigens.

2. The first approach could have a counterpart: There are some works in which circulating antibodies against DNA-protein and cell nuclei have been produced in animals by immunization with those antigens.^{28,29,30}

Therefore, animals could be immunized against those antigens and then tested for the presence of circulating antibodies, and delayed hypersensitivity by skin tests and in vitro studies, with tissue cultures of peritoneal macrophages. A comparison of these results with those seen using patients' mononuclear cells could be made.

3. By means of immunofluorescence techniques, look for the presence of antibodies to such antigens in the lymphocytes of patients suffering from the disease.

4. Look for the possibility of inducing cytotoxic effects on tissue cells (kidney, for example) by the addition of LE factor, lymphocytes from patients or a combination of both.

In our present study, we used the first approach to the problem.

Materials and Methods

Antigens—The following substances were used as antigens:

Deoxyribonucleic acid, prepared from calf thymus by a modification of the Zamenhof procedure.

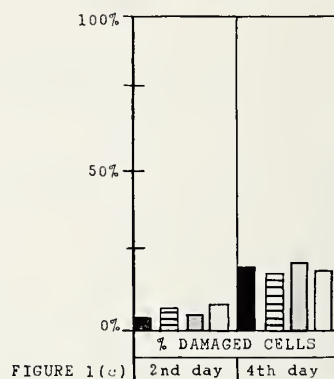
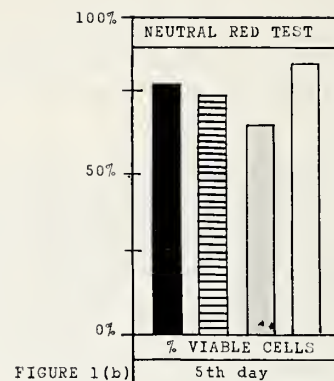
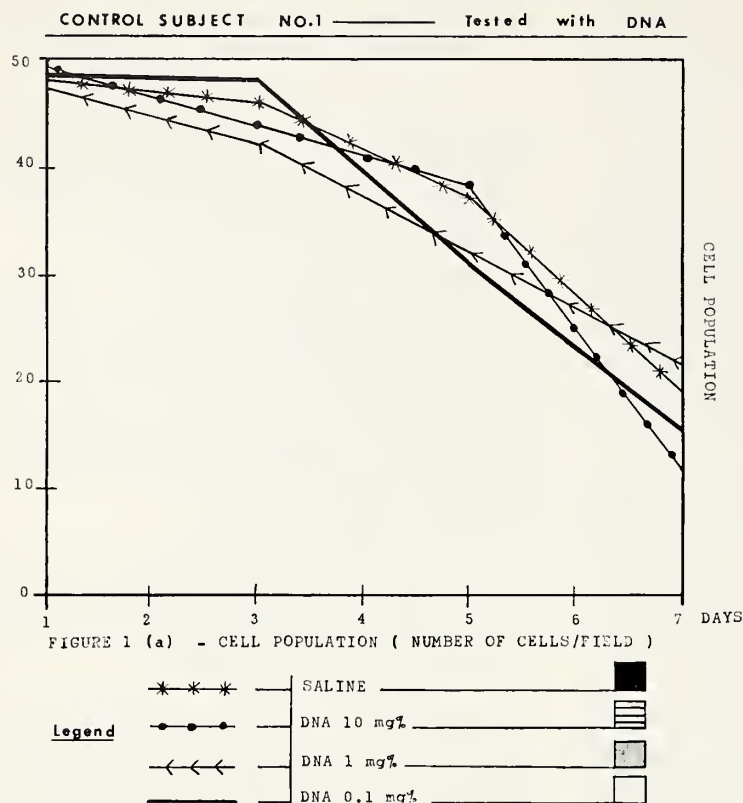
Histone, obtained from calf thymus by molar sodium chloride extraction.

Nucleohistone, obtained from calf thymus by a modification of the Zamenhof procedure.

Ribonucleic acid, prepared from baker's yeast.

These substances were obtained from Worthington Biochemical Corporation (New Jersey). The histone, RNA and DNA were supplied as a powder. Nucleohistone was supplied as a frozen solution.

FIGURE 1



The DNA, RNA and histone were prepared as 100 mg% stock solutions in NSS (normal saline solution). We let the solutions stand for 24 hours at room temperature to facilitate the powder to dissolve well. It was necessary to warm up the solutions at 40-45 degrees centigrade for one to two hours to facilitate the process.

The pH was adjusted to 7:3 with sodium bicarbonate (7.5% sol.) or with 1N HCL sol. when it was necessary.

The solutions were sterilized by filtration through a Millipore filter (pore size: 0.45 microns). After filtration was done, we measured optical densities of the solutions with a Beckman spectrophotometer to detect any significant loss of antigen in the RNA and DNA solutions. We determined protein concentration of the histone solution by precipitation with trichloroacetic acid and we found that 50% of the histone was lost during the filtration procedure.

Nucleohistone was prepared according to these steps: the original stock frozen solution was diluted 1:10 in a 2 Molar NaCl solution. The pH was adjusted to 7.3 and sterilization done by Millipore filtration. Protein determination also disclosed a 50% loss of substance in the final solution. There was no significant loss of antigen in the RNA and DNA solution.

All stock solutions were kept in a frozen state. Finally, 3 different solutions for each antigen were prepared in Hank's solution with the following concentrations: 10 mg%, 1 mg%, and 0.1 mg%. The nucleohistone solution was not diluted in Hank's solution.

They were placed at 37 degrees centigrade for 30 minutes before being added to the cultures. One tenth of a cc of the antigen solution was added to each flask containing 5 ml of tissue culture medium with lymphocytes.

Tissue Culture Medium

The medium utilized was Eagle's Minimum

FIGURE 2

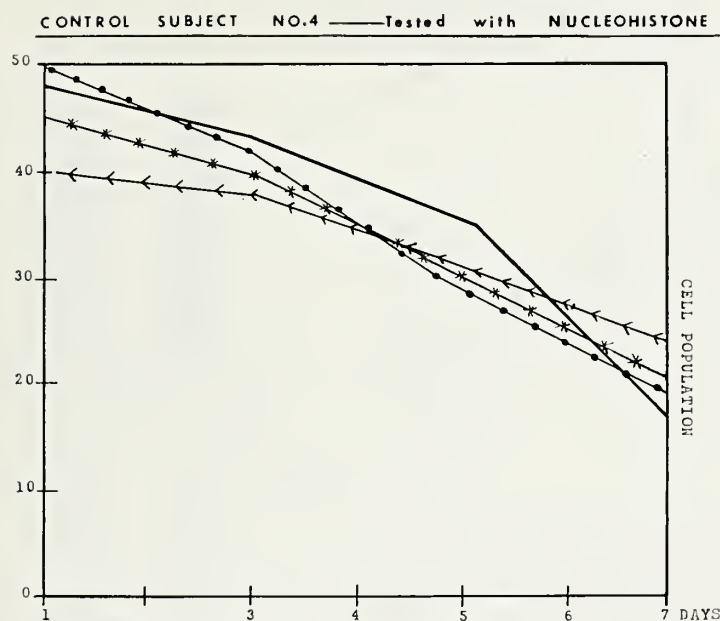


FIGURE 2 (a) CELL POPULATION (NUMBER OF CELLS/FIELD)

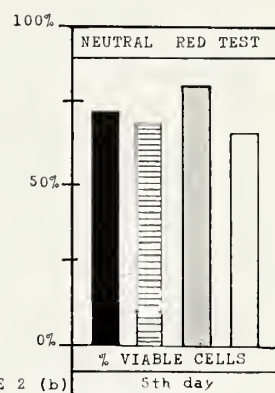
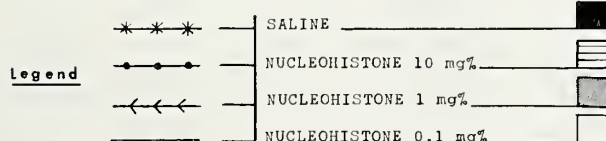


FIGURE 2 (b)

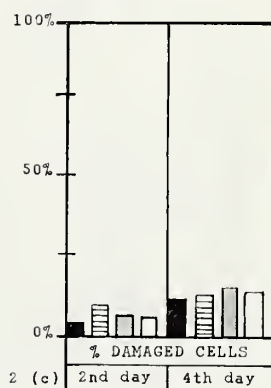


FIGURE 2 (c)

Essential Medium containing 20% horse serum, 1% glutamine, 1% penicillin-streptomycin mixture. The tissue culture products were obtained from Baltimore Biological Laboratory.

Immunological Competent Cells for Culture

Lymphocytes from peripheral blood were used for this purpose. Six normal subjects, 4 rheumatoid arthritis patients and 2 systemic lupus patients were included in this short study. The normal subjects were included as controls and the RA patients were included for comparison with the SLE patients.

None of the patients but one were hospitalized at the moment of the study.

One of the patients with lupus (SLE #1) was a 45 y.o. white, woman who had been on steroids for 10 years. The LE cell preparation was negative at the time of the study. The other one (SLE #2) was a 38 y.o. Negro woman who had been treated with chloroquine

and had been on steroids for the last four years; the L.E. cell preparation was also negative.

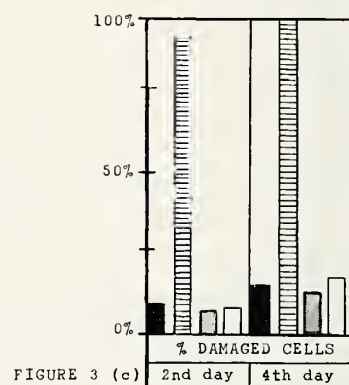
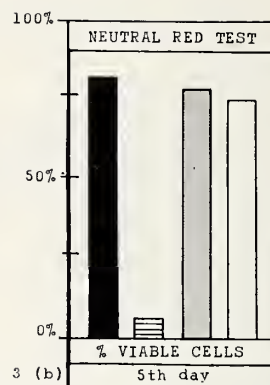
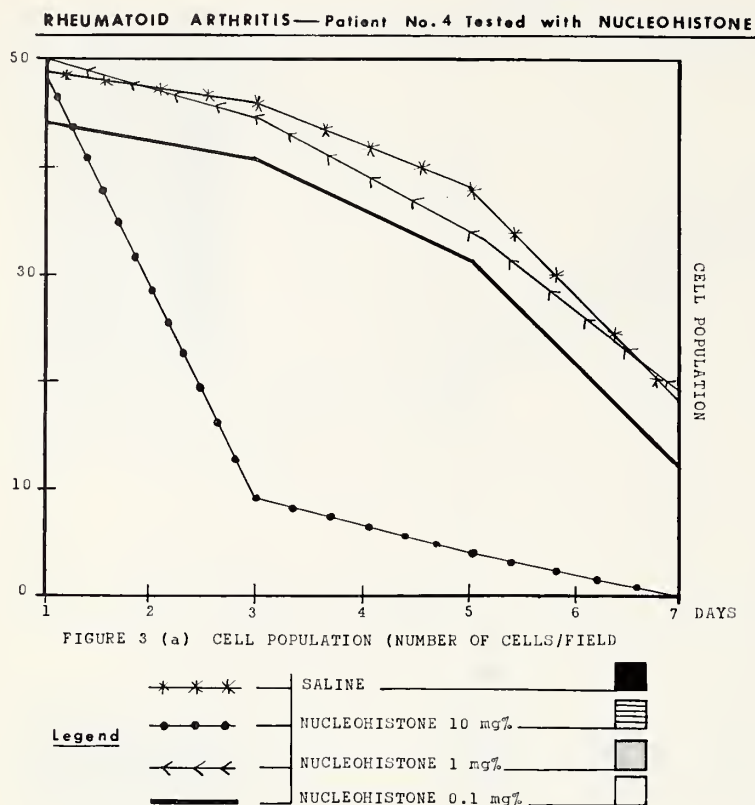
Two of the rheumatoid arthritis patients (RA #1 and RA #2) never received steroids and at the moment of the study she was receiving a therapeutic trial with Leukeran. RA #4 was a 59 y.o. white, man who has had arthritis for the last 6 years; in 1962, few LE cells were observed in one smear. No LE cells have been seen later on. He had a positive RA latex fixation test, hypergammaglobulinemia, anemia, and also esplenomegaly. The patient was on chloroquine and steroids at the moment of the study.

To separate the lymphocytes from peripheral blood, we used a modification of the Hirschorn's method accelerating the erithro sedimentation by the addition of Dextran.

The technique was as follows.

Ten ml. of venous blood was drawn into a sterile heparinized syringe. Five ml. of blood

FIGURE 3



were placed into two sterile centrifuge tubes, each one containing 200 units of heparin and 2.5 ml. of high-molecular weight clinical Dextran in 0.9% saline solution.

Erithrosedimentation at 37° cent. was allowed for one hour. The leucocyte-rich plasma was withdrawn aseptically with a sterile capillary pipette. The total amount of plasma withdrawn contained from 6 to 10 millions of white cells. The plasma was then centrifuged at 600 rpm for 5 min. The leucocytes were resuspended in tissue culture medium and the suspension was set on a tissue culture flask (30 ml size, Falcon plastic) for 30 minutes at 37° cent. to allow polymorphonuclear cells and monocytes to adhere to the bottom of the flask first. Then, we poured off the fluid into a sterile centrifuge tube. A Wright stain was done from this suspension and it revealed that 80-90% of the cells were lymphocytes. The cells were washed 3x in Hank's solution and finally resuspended in 4 ml of Hanks. One

ml of this suspension was placed in each one of four flasks. To each flask 5 ml of medium and 0.5 ml of heparin solution (10 mg%) were added.

Cell count and Wright staining for differential count of the cell suspensions was done only with three of the control subjects.

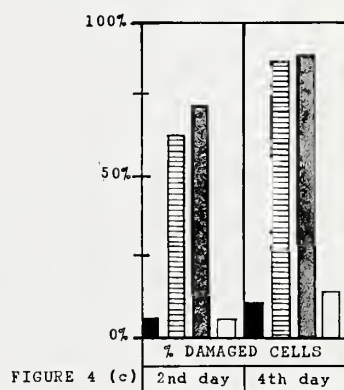
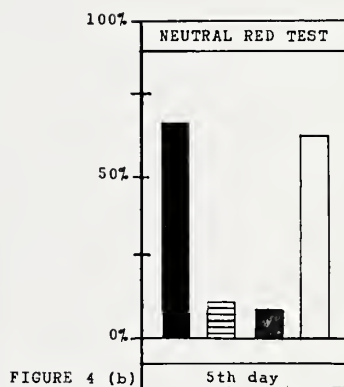
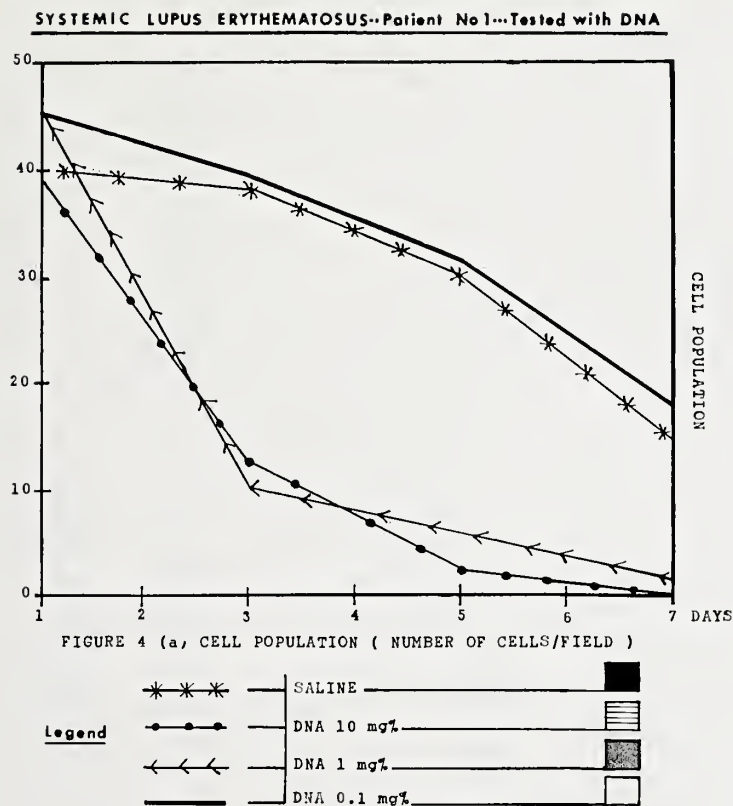
So, each patient or control had a set of flasks, to which we added normal saline or antigen solution.

- Flask #1 = 0.1 ml normal saline
- Flask #2 = 0.1 ml Ag sol. (0.1 mg%)
- Flask #3 = 0.1 ml Ag sol. (1 mg%)
- Flask #4 = 0.1 ml Ag sol. (10 mg%)

Unfortunately, each patient or control subject could have only one different antigen added:

Control subject #1 was tested with DNA
Control #2 with DNA
C #3 + RNA

FIGURE 4



C #4 + nucleohistone
 C #5 + nucleohistone
 C #6 + histone
 SLE #1 + DNA
 SLE #2 + nucleohistone
 RA #1 + RNA
 RA #2 + histone
 RA #3 + DNA
 RA #4 + nucleohistone

The antigens or saline were added at the moment of setting the cultures. The cells were observed under the light microscope every day. The culture medium was changed for a fresh one on the 3rd, 5th and 7th day.

Parameters Used to Evaluate the Effect of The Antigens on the Cells

Cell Population: Cells were counted on the 1st, 3rd, 5th, and 7th day. Five spots chosen randomly in the flask were examined under the microscope. Cells were counted in each one of them and a mean value was obtained.

A high dry power was used (43x10).

Cell Viability test: It was performed using neutral red as a dye. A 1% sol. in water was prepared as a stock solution. This was diluted 1:10 in Hank's solution and centrifuged at 1500 rmp for 10 min. The supernatant was poured off and sterilized. This sterile preparation was added to the culture: 0.2cc per 0.8 cc of medium. The results were read in 15 min. Viable cells stain; the percentage of stained cells was determined. The test was done on the 5th day.

Cell morphology and behavior: The appearance of many vacuoles in the cells, cell swelling, clumping of the cells and loss of stickiness to the flask were considered as signs of cell damage or degeneration. The percentage of cells showing these changes was determined on the 2nd day and 4th day.

Results

The lymphocytes from the control subjects

FIGURE 5

SYSTEMIC LUPUS ERYTHEMATOSUS-- Patient No 2---Tested with NUCLEOHISTONE

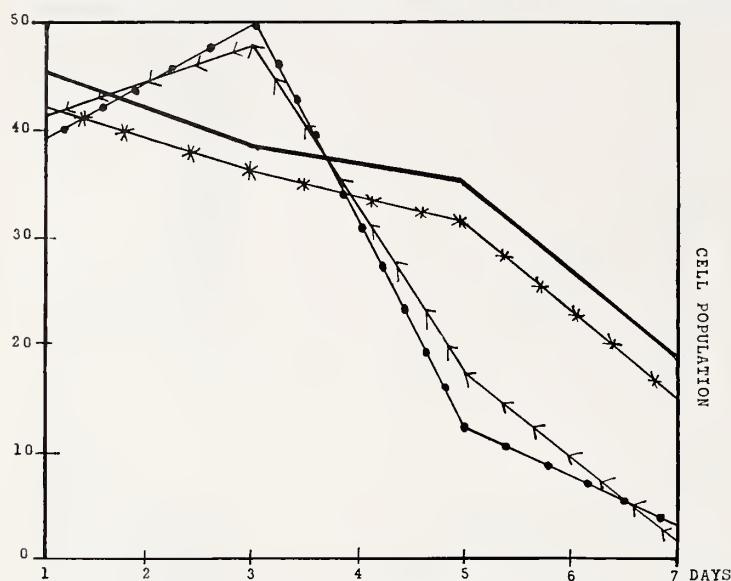


FIGURE 5 (a) - CELL POPULATION (NUMBER OF CELLS /FIELD)

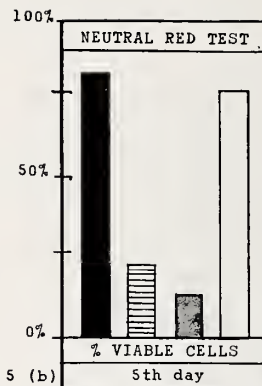
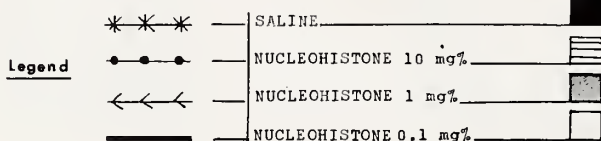


FIGURE 5 (b)

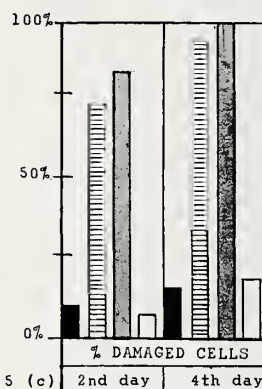


FIGURE 5 (c)

showed a progressive fall in the cell population. From an initial count that varied between 40-50 cells/field on the first day, dropped to 10-25 cells/field on the 7th.

The viability of the cells, tested with neutral red showed that 70-85% of the cells were viable on the fifth day. The percentage of damaged cells on the 2nd day was pretty low (5-10%) and the percentage increased only to 10-20% by the 4th day. (See Fig. #1 and #2)

The cells from the rheumatoid arthritis patients behaved pretty much like the cells from the control subjects. There was one exception: RA #4 (tested with nucleohistone) showed a sharp fall from 47 to 9 cells/field in the cell population on the 3rd day, and then decreased progressively. This last phenomenon was observed only when the antigen was used in the concentration of 10 mg%.

The same type of results were observed

using neutral red as an indicator for cell viability. The percentage of viable cells present on the fifth day was only about 10%, whereas the percentage of damaged was 90% on the second day, and 100% on the 4th day. (See Fig. #3)

The cells from patient SLE #1 (tested with DNA) showed similar changes. (See Fig. #4) But, those changes were only observed when the concentrations of the antigen solutions used were 1 and 10 mg%. The antigen solution that had a concentration of 0.1mg% did not seem to affect the cells. The lymphocytes from patient SLE #2 (tested with nucleohistone) showed a paradoxical increase in cell population on the 3rd day when using the antigen solutions with concentrations of 1 and 10 mg%. (See Fig. #5). We could not find any explanation for this phenomenon and it was interesting to observe that the cells showed an enlarged size. Subsequently there was a sharp fall of the cell population by the

TABLE NO. 1 (Patient C-3)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
RNA		%	%	%	
Cell Population	45	49	40	41	1st
Cell Count/Field	40	41	38	36	3rd
	36	38	29	27	5th
	20	15	18	20	7th
Cell Viability (neutral red test)	68%	72%	75%	70%	5th
Damaged Cells	5%	2%	6%	7%	2nd
	9%	4%	12%	15%	4th

TABLE NO. 2 (Patient C-4)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
Nucleohistone		%	%	%	
Cell Population	45	50	40	49	1st
Cell Count/Field	40	42	38	43	3rd
	30	29	33	36	5th
	21	20	24	18	7th
Cell Viability (neutral red test)	75%	71%	80%	68%	5th
Damaged Cells	5%	3%	4%	6%	2nd
	12%	10%	11%	15%	4th

TABLE NO. 3 (Patient C-5)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
Nucleohistone		%	%	%	
Cell Population	51	49	44	48	1st
Cell Count/Field	45	43	41	46	3rd
	36	37	30	29	5th
	18	11	20	13	7th
Cell Viability (neutral red test)	74%	68%	79%	61%	5th
Damaged Cells	4%	6%	4%	8%	2nd
	7%	11%	7%	15%	4th

fifth day. Similar effects were seen when the other parameters (cell viability and percentage of damaged cells) were assessed.

Discussion

It was interesting to see that the lymphocytes proceeding from normal subjects behaved in a similar pattern and it did not seem to exist much variation in the curves obtained from the cell population from one normal control subject to another. Therefore, we felt that any peculiar behavior in the cell population and viability of the cells from the patients
(Continued on Page 122)

TABLE NO. 4 (Patient C-6)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
Histone		%	%	%	
Cell Population	39	49	47	43	1st
Cell Count/Field	35	46	37	38	3rd
	30	31	26	25	5th
	20	21	17	19	7th
Cell Viability (neutral red test)	80%	76%	70%	83%	5th
Damaged Cells	5%	4%	8%	13%	2nd
	9%	11%	15%	24%	4th

TABLE NO. 5 (Patient R.A.-1)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
RNA		%	%	%	
Cell Population	52	42	50	42	1st
Cell Count/Field	40	44	46	38	3rd
	35	31	29	25	5th
	14	18	16	12	7th
Cell Viability (neutral red test)	77%	71%	83%	67%	5th
Damaged Cells	8%	10%	6%	14%	2nd
	12%	16%	14%	20%	4th

TABLE NO. 6 (Patient R.A.-2)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
Histone		%	%	%	
Cell Population	55	51	53	45	1st
Cell Count/Field	43	47	49	41	3rd
	38	34	32	28	5th
	17	21	19	15	7th
Cell Viability (neutral red test)	80%	74%	85%	70%	5th
Damaged Cells	11%	13%	9%	17%	2nd
	15%	19%	17%	23%	4th

TABLE NO. 7 (Patient R.A.-3)

Antigen Used	Concentration				Day
	Saline	10 mg	1 mg	0.1 mg	
DNA		%	%	%	
Cell Population	49	47	51	43	1st
Cell Count/Field	46	45	47	39	3rd
	38	32	29	26	5th
	18	19	17	13	7th
Cell Viability (neutral red test)	68%	72%	83%	68%	5th
Damaged Cells	9%	11%	7%	15%	2nd
	13%	17%	15%	21%	4th

TREATMENT OF INFLUENZA

LEO I. HALLAY, M.D.
Fort Blackmore, Va.

It was hog killing time in the year 1938, and all the hogs of the Southwest Virginia lumbermen camp, I was connected with at that time have met their untimely death. The meat tasted good and lots of it had been consumed on that day by the lumbermen and their families. When the night came almost all the eaters had developed vomiting and diarrhea, and I was going from house to house dealing out tannic acid powder to the victims of the "food poisoning" epidemic. It appeared to be helpful both in relieving the vomiting and diarrhea and in preventing a recurrence of the calamity that befell the Army of Sennacherib king of Assyria which was besieging the City of Jerusalem. This calamity is described in 2 Kings, chap. 19 v. 35 and can be translated from Hebrew as follows: "And they arose in the morning and found themselves dead." Since that hog-killing-day I have had countless occasions to find out that the use of

vomiting, esp. in cases of gastritis and enteritis, is closer to the truth than any other drug ever used previously and subsequently for the same purpose. It even could be used by me as a therapeutic test to exclude appendicitis and other conditions usually classified as an acute abdominal condition.

In the fall of the year 1939, while I was still connected with that camp, there was one of the recurring influenza epidemics, and while I was treating a patient with the classical symptoms of this disease I had decided to give him some tannic acid powder by mouth to relieve the gastrointestinal symptoms this patient had been having at that time. The patient experienced dramatic relief of these symptoms, and the course of the disease appeared to be milder in this case, than in the cases treated by other methods. All the patients had also been given salicylates for

There is the story of an incident that occurred around the turn of the century. Two professors of medicine were riding down the street in a carriage on their way to a consultation; one was an Allopath, the other a Homeopath.

Said the former to the latter, "Well, Doctor, if your medicine does the patient no good, it at least does him no harm."

I'm sorry that I can't say the same about yours," was the rejoinder.

To some of us, classified as "old timers," the important thing is to help the patient get better; failing this, to help him feel better. Your editor considers himself neither competent nor willing to discuss the pros and cons on the theory behind Dr. Hallay's treatment

for influenza. Certainly, it seems harmless and the results appear to be beneficial. It is with this philosophy in mind that the article is offered to the readers of the Delaware Medical Journal.

Dr. Hallay uses several terms that demand definition:

Oligosepsis—a chemotherapy directed against the virulence of pathogenic micro-organisms with the aim of reducing their infectious ability without necessarily killing them.

Esophylaxis—the protective action of the skin directed inwards.

Neoesophylaxis—the stimulation of esophylaxis.

EDITOR

the relief of pain and fever, iodized calcium for the cough, and calcium lactate tablets. The last given I still believe reduce and prevent the signs of asthenia following influenza, when given in the acute stage of the disease. Besides all this, the principles of oligosepsis¹ used by me since 1931 and published by me on several occasions were used by me in the treatment of all patients. Combination of oligosepsis with tannic acid medication appeared in that case to be more impressive in the result obtained than in the control cases. Since the year 1939 I have been using the oligoseptic procedure in combination with esophylaxis, and the term neoesophylaxis developed by me appeared to be more appropriate in the description of this medication.² Either tincture of green soap, or its combination with liniment of soap was applied all over the body except the head and the neck. When combined with oral tannic acid medication in that patient the results appeared to be better than those obtained with neoesophylaxis alone. Since that time in 1939 I have never treated a patient with influenza without using this combination of giving the patient a pinch of tannic acid powder and applying the liniment as described above. The influenza epidemics kept on recurring and the number of patients treated by me in this way has run in the thousands. These included about 400 cases treated by me during the 1957 epidemic of Asian influenza. Being in contact with many cases of influenza I keep on being exposed to this disease and a lasting immunity against it does not usually occur. Therefore I have on many occasions had the opportunity to evaluate the treatment described above in self-experiment. Now and again I was able in this way to find out that in the early stage of the disease influenza can be aborted by tannic acid alone. A pinch of the powder into the mouth as soon as the first symptoms of the disease begin to develop give almost immediate relief of the indescribable sensation in the abdomen and the other symptoms of beginning influenza. Because of the increased load of patients I had to see during the recurrent epidemics I have on several occasions failed to abort the disease on myself

in the incipient stage, and then the influenza did develop in spite of the tannic acid powder taken by me. The symptoms, however, were milder than without this medication, and I was usually able to keep on seeing patients in my office, while the disease was allowed to follow its seven-day-periodicity to recovery.

Asian Influenza Epidemic

During the 1957 epidemic of Asian influenza the number of patients was so great, that I could not afford to be sick; I had to take the tannic acid powder 14 times and was able to abort the disease in its initial stages. Then finally the epidemic was over, and I was able to avoid incapacitation by influenza at that time. During the epidemic it was not possible for me to see all the patients. A supply of the drugs mentioned and a pinch of tannic acid powder was sent to the patients I could not see and the results obtained were satisfactory in almost all cases. A confirmation of the diagnosis by laboratory tests was not believed to be absolutely necessary during that epidemic. Neoesophylaxis has always been used by me in cases treated in the office or at home. It always appeared to be useful in severe cases of the disease. I would like to point out that older experiences with oligosepsis as described by me appear to be contained in the 19th chapter of Numbers (the red heifer ashes). The importance of the seven-day-periodicity of inflammatory disease is stressed in the 13th chap. of Leviticus, Numbers chap. 12, v. 14 and elsewhere in the Scriptures. The Hebrew phrase *Makoh Sheva* in Leviticus Ch. 26, v. 21 appears to point towards the neoplastic and degenerative diseases seen to arise following the interruption of the seven-day-periodicity of inflammatory conditions with antibiotics, antihistamines and corticosterones. As a matter of fact, penicillin treatment is mentioned in 2 Kings, ch. 20, v. 7 (the molded figs were the source of it). The sixth verse of the same chapter promises only 15 years of life to King Hezekiah, which would suggest that the shortened life-expectancy now known to follow penicillin treatment was also known to Isaiah.

While this study was in progress, once again

in the history of medicine, penicillin was discovered, and as it happened on many previous occasions, it and the other antibiotics discovered later, were used in the treatment of every disease known to man. Even virus infections began to be treated with penicillin, in spite of the fact that has become evident immediately after the discovery of penicillin that most of the viruses do not respond to penicillin and other antibiotics. Moreover it soon became apparent that in order to obtain a pure culture of viruses, antibiotics had to be added to destroy all the opposition. The administration of antibiotics in cases of cold influenza was equivalent to creating the most favorable ecological conditions for the viruses causing these diseases. Even now many patients can be heard boasting that they have a virus infection and are receiving penicillin for it. I have been finally able to publish in January 1957³ that the use of antibiotics in cases of influenza is not indicated, since they appear to aggravate the symptoms of the disease and to prolong the stage of asthenia following it. It would accordingly not serve any useful purpose to compare the results obtained by antibiotics with those obtained by me with tannic acid powder and neoesophylaxis. During the 1957 epidemic less antibiotics were used and many patients have followed the broadcasted advice to use aspirin. This would appear to explain why the mortality during that epidemic was much lower than it was originally expected. Many of the cases that have followed the broadcasted advice were seen by me and in the milder cases amelioration of the symptoms could be achieved by me by tannic acid alone; in severe cases neoesophylaxis as described above appeared to reduce the severity of the symptoms and to speed up recovery. Cases of influenza with signs of encephalitis lethargica were seen and all 3 of them have recovered following the combined treatment without any residual signs of postencephalitic parkinsonism seen to follow the infection. There have been three deaths in my series of patients during the 1957 epidemic; all of them were old and debilitated and were given penicillin either previously or during the disease. Since that time

it was found useful by me to use both aminophylline and thiamine chloride tablets, 1 mg in old debilitated patients with severe cases of influenza.

While this study was in progress Green⁴ in the year 1948 was able to report that 15 minutes contact between influenza viruses concentrate and 0.2 mg of tannic acid per ml has resulted in the reduction of the infectivity of the virus by 3 logs. These experiments were later in the year 1953 confirmed by Carson and Frish⁵ in an investigation supported by the Office of Naval Research. They used both tannate, digallate and gentisate and came to the conclusion that the inactivation of the PR 8 influenza virus by neutralized and filtered tannic and digallic acids can be demonstrated in their experiments. They used 0.001 mg of tannic acid in vitro and 0.5 mg in vivo for 1D⁵⁰ virus. Both gallic, pyrogallic and gentisic acids did not do a bit of good. With tannic acid, inactivation of the virus was seen by them to take place when the drug was administered up to 96 hours before and up to one hour after the injection of the virus. The mode of the inactivation of the influenza virus with tannic acid was investigated by Frisch and Carson.⁶ This investigation, also sponsored by the Office of Naval Research and published in 1953 showed that the in vivo multiplication of the PR8 virus by tannic acid was a function of the duration of incubation and the dose of the virus injected. If 30 minutes were allowed for penetration of as little as 10 1D⁵⁰ of virus into the chorioallantoic membrane it did invariably appear in the allantoic cavity despite a delay of 24 to 36 hours; which was believed attributable to the presence to the virus. After the effect of the tannate was overcome the virus appeared in the allantoic cavity in amounts comparable with control embryos. Evidence was presented that this phenomenon was due not to acquired resistance but to inactivation of the extracellular virus. These laboratory experiments appear to confirm my clinical experiences that incipient cases of influenza can be aborted by tannic acid powder.

(Continued on Page 125)



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



TO LABEL OR NOT TO LABEL IS THAT THE QUESTION?

The "label such" controversy has flared for many years between medicine and pharmacy. Recent policy statements by the American Medical Association indicates that the physician should maintain two sets of prescription blanks, one with Label Such and one without.

The propriety or desirability of identifying the ingredients of prescription medication by labeling cannot be defined dogmatically, either from the viewpoint of the prescriber, the patient, or the pharmacist; such disclosure must be evaluated in relation to the circumstances and the persons involved. Consequently, necessity rather than convenience of the prescriber, patient, pharmacist or any other party should be the determining factor in whether or not the ingredients of a prescription medication are disclosed by labeling. Labeling practices which may be good if routinely fostered under one set of circumstances, may be bad if routinely fostered under another set of circumstances.

Some physicians find it difficult to have their prescriptions labelled. The traditional procedures taught in both medical and pharmacy colleges for years, indicated that the medication identity be maintained within the professions. A sophisticated community and more potent medications have changed much of the thinking in this area. It is often many years before the new educational viewpoint on any given subject filters to the practicing professional. If this problem continually arises, it is suggested that direct communication between the two persons involved be established.

Pharmacy's position on this problem has been that the prescriber has the prerogative to indicate "label such" on his prescriptions

and that he should so direct at the time the prescription is written or delivered in oral form. To saddle the pharmacist with another directive to label all prescriptions would be a move toward chaos; for each physician one finds in favor of labeling, there is at least one who does not favor this position. Pharmacy's position is a middle of the road location which is intended to yield patient health and safety while performing the objectives of the individual prescriber.

There has been much confusion concerning the distribution of ipecac syrup. After several exploratory letters to the Food and Drug Administration, the Board of Pharmacy has instructed me to issue this statement to avoid future problems for either discipline.

Ipecac syrup will require an oral or written prescription from a licensed practitioner except if packaged and labelled as follows:

Package to contain 30 ML., with a label bearing, in addition to other required label, the following information in a prominent and conspicuous manner: "A statement" conspicuously boxed and in red letters to the effect: "For emergency use to cause vomiting in poisoning. Before using call physician, the Poison Control Center, or hospital emergency room immediately for advice," and "A warning" to the effect: "Warning—keep out of the reach of children. Do not use in unconscious persons. Ordinarily, this drug should not be used if strychnine, corrosives such as alkalies (lye) and strong acids, or petroleum distillates such as kerosene, gasoline, coal oil, fuel oil, paint thinner, or cleaning fluid have been ingested;" and "Usual dosage: one tablespoon (15 ml.) in persons over one year of age."

Reflections of a Country Doctor

ROBERT B. HOPKINS, M.D.
President of the Medical Society
Of Delaware, 1902-1903



Preface.
Sitting in the twilight of an autumn evening looking out upon
the fading landscape, admiring its changing beauty, the question
came to me, "Why has not some physician given a
retrospective view of the Country Doctor's life?" While
the thought in my mind the question made a personal
application and asked, "Why not you?" Acting on the impulse of the moment
I took up my pen and began. Having been in the pro-
fession a few years I assumed the responsibility with a great deal
of hesitating, than an older who through knowledge and experience
better fitted to the task than myself. However I hope I may
be pardoned for being bold enough to present this little volume
to the profession claiming for it nothing extraordinary- but
simply incidents and reflections common to every practitioner of
medicine. I have never yet met with a country Doctor who
has not had his share but they probably have shown their
disposition in being reticent while I have ventured to write
these down and present them in the shape of a book.
The reader will soon learn that this little volume is
not intended as a treatise on medicine or surgery
but simply "the reflections of a country doctor." I hope the
profession will be kind in its criticism and if from
anything I have said they can gain assistance or even
afford their amusement there it will have accomplished its purpose.

PREFACE

Sitting in the twilight of an autumn evening looking out upon the fading landscape, admiring its changing beauty, the question came to me, "Why has not some physician given a retrospective view of the country doc-

tor's life?" While revolving the thought in my mind, the question made a personal application and asked, "Why not you?" Acting on the impulse of the moment I took up my pen and began. Having been in the pro-

fession only a few years, I assumed the responsibility with a great deal of doubt, knowing there are others who, through knowledge and experience, were better fitted to the task than myself. However, I hope I may be pardoned for being bold enough to present this little volume to the profession, claiming for it nothing extraordinary—but simply incidents and reflections common to every practitioner of medicine. I have never yet met with a country doctor who has not had his share, but, they probably have shown their discretion in being reticent while I have ventured to write them down and present them in the shape of a book.

The reader will soon learn that this little volume is not intended as a treatise on medicine or surgery, but simply "the reflections of a country doctor." I hope the profession will be kind in its criticism and if, from anything

I have said they can gain assistance or even amusement, then it will have accomplished all its author could desire. To the old practitioner it may recall incidents common to his own life while to the young man who has just emerged from some medical college and settled himself in the country it may convey a rough conception of what his life work will be and point out the difficulties with which he may expect to meet.

There are many things which could be said and related in the experience of a country doctor—which might not be appropriate here. I do not claim by any means to have exhausted the subject, but, were I not sensitive to the fact that brevity is the soul of wit, this little book might assume proportions not intended.

R. B. H.

Space would not allow us to give a detailed history of medicine. Admitting that as an introductory it would be interesting and instructive, it would also be lengthy and this little volume would assume such proportions that we fear the subject of *The Country Doctor*, in contrast, would be lost sight of entirely. Suffice it to say that country doctors compose the larger portion of the profession. We are not egotistic when we say that they have contributed largely to its literature, its discoveries and are the men who today are working for the interests of their patients, the advancement of science and the good they may accomplish in the world. We do not wish to be construed as inferring that our city brothers are not as zealous, intelligent and philanthropic. We are always willing to grasp them by the hand in brotherly love, seek their council in consultation and stand shoulder to shoulder with them in the battle against disease.

The Country Doctor labors under many disadvantages of which our city brothers have no practical knowledge. They, being closely situated, can always call in assistance and have the ready means to meet emergencies, while the Country Doctor is often compelled to battle with disease alone and under the

most unfavorable circumstances. He administers the anaesthetic, performs the operation—assisted it may be, by one or two crude assistants. Such experience seldom falls to the lot of his city brothers. Far away in some country home, when it is impossible to procure assistance owing probably to a storm or some emergency, he is compelled to perform duties in which he would be grateful to have the assistance of a brother practitioner. But, from this very experience, the Country Doctor has been taught useful lessons. He learns to become independent and self-relying. It teaches him to be a careful observer and compels him to be a close student. He is the surgeon, the practitioner, the obstetrician, the gynecologist, oculist, dentist and druggist.

The Country Doctor's life, while it may be one of self-sacrifice and labor, is not without its reward. There are oases in his life at which he may rest and refresh himself. He may enjoy some natural advantages in contrast to his city brothers in having free access to the pure exhilarating air of the country, its varied and picturesque scenery—and its freedom from contamination and vice to which a city is often subjected. And further, he does not witness that abject poverty and destitution

so often seen in a metropolis. The morality of a country life, we are led to believe, is superior to that of a city. There are not those environments which are conducive to vice and misery and, therefore, the Country Doctor's experience with this class of patients, we are glad to say, is at the minimum.

Let not the young man who has chosen the profession of medicine deceive himself that the way is strewn with roses or that the road is smooth. Perhaps he has seen some older member of the profession who has gained a competence riding by with well equipped team—and he imagines how easy must be the doctor's station in life. But remember that what seems pleasant and superficial is but the exterior, and whatever success he has attained is the result of constant exertion, years of care and toil. Be actuated by a higher motive. We are led to believe that could the life of a Country Doctor be outlined in relief—a prospective of what his life work would be—the profession today would not be crowded. This book was not written, however, with that object in view. Many young men enter it for the position it may place them in society. Some from the hope of financial gain—some to acquire a title, and many are actuated by the good they hope to render to their fellow man. Unless he is thoroughly imbued, thoroughly in sympathy and in love with this branch of science he had better not enter it at all. If he does not possess those qualities and graces which are requisite for true manhood it would be better for himself that he follow some other vocation.

The Great Physician a Criterion

To picture a typical man would be a difficult if not an impossible task. We have only one example and that was exemplified in the Great Physician “who went about doing good”. He is the great example—a criterion to which we may all look and learn. The physician—let him live where he may—should be well educated and, combined with this he should possess good common sense, the writer not excepted. How often we meet with persons in the profession who hold diplomas from first class medical colleges who seem to be destitute of discretion and good judgment. Knowledge

is one of the means whereby we are to acquire more learning—*knowledge is power*. A person poorly equipped in any business or profession will not make marked progress—and further, who would be so unthoughtful or recreant to his own interests to employ an inferior workman to perform some important task.

While the study of medicine should be the first and uppermost thought in the physician's mind, yet he should not be narrow and circumscribed but liberal and broad in his views, gathering here and there truth—storing in his memory food which can be used when emergency demands. The field of medicine is broad and would absorb all his energies and capabilities. Yet we grow and obtain strength by the things we come in contact with. Our environments make up a large part of our lives. How broad is the field of knowledge when we take even a superficial view. Jenny Lind devoted her life to song yet did not reach perfection. Beethoven rendered his sweetest symphonies yet did not produce what his soul desired. Sir Joshua Reynolds spent his life with brush in hand yet could not portray his idea. Music, art, sculpture and the sciences—how broad are their fields. Medicine, the hand maid of Christianity—which has been handed down to us by physicians of the ages, is yet in her infancy. The coming century will develop greater progress. The last decade, it is true, has made wonderful discoveries, but we look forward to still greater advancement until the time will come when medicine will be an exact science. The young man, therefore, who enters the profession today is ushered into a broader field—he enjoys advantages undreamed of by his predecessor of fifty years ago.

How buoyant and elated the young man, after equipping himself at some literary college, starts on his career as a student of medicine. How strange, what a contrast there is between the quiet college town and the busy city. Here it is hurry and bustle—strange faces meet him on every hand. What a study is a great city with its massive buildings—its crowded streets—its varied population. The palaces of the rich in contrast to the hovels of the poor. The fine equipage of the wealthy in contrast with the beggar who soli-

cits alms as he hobbles slowly along on his crutch. The well-dressed and respected in contrast to the ragged and debauched. The church with its gilded spire pointing towards heaven—a representative of all that is good and pure—while an adjoining saloon advertises spiritous liquors enticing the soul to moral and spiritual ruin. What an inconsistency here—how could opposites be more extreme.

Medical College

“The happy day at last has arrived,” thinks the student as he presents his recommendation and is registered by the dean as a student of medicine. What a concourse of students as the time for the first lecture has come and he wends his way to the college and takes his seat in the amphitheatre. How impressive that lecture was—years have come and gone—and with them their duties and cares—yet the impression of that first lecture is still fresh upon his memory. How noble and grand the professor seemed in his eyes as he stood in the prime and acme of his life. “Young men”, he began, after casting his eye carefully around, “I greet you. You have come to a great city to attend a medical school of world wide reputation. You come from varied climes and represent different nationalities. The environments of home you have left behind, but may their influence, if they be good, still follow you. You will be subjected to trials and may be allured into the dens of vice—be careful take my advice as one interested in your welfare—fall not into temptations. Respect your Father and Mother if they be living and hal-low their memory if they be dead by living a virtuous and Godly life. Be men: act your part nobly as you have entered upon a profession that will require your best faculties and energies.” Dear Doctor Gross! although your voice is forever hushed, still your influence lives. Three long years have been spent in careful and assiduous study. Knowledge has been imparted by the best teachers in the land. Every endeavor on their part has been justly and conscientiously made. The long looked for and dreaded day has arrived—examination day. Will I pass? or Will I fail?, is the question that every student is revolving

in his mind. Why should I fail? I have been attentive to the lectures and studious. I have burned the mid-night oil. I have concentrated all my energies of the past to meet this all important occasion. What if I should fail—then years of toil and sacrifice have availed but naught. My finances are almost exhausted: possibly they may have come from my own exertion or have been a sacrifice of a devoted father or mother, who have deprived themselves of the luxuries or even necessities of life that I might gain the desire and ambition of my life. If I fail could I bear to meet that look of disapproval and disappointment. No. I cannot fail—I will not fail. Thus viewing himself, he enters into the contest.

The examination is a written one. It will give time for reflection and composure. The first question that is placed on the surface—he knows the answer. His confidence is strengthened. The second, he likewise knows and so on down the list until he is assured that the branch of surgery is safely passed. What a burden has been lifted from his mind. He walks out to relax himself from the mental tension. Finally the week of examination is over and on the following Monday morning the class is assembled in the lecture room to receive its report. Each member, as his name is called, advances and receives a sealed envelope, the contents of which means a great deal to him. He breaks the seal with tremulous hand. It requires no philosopher to tell its import, as that can be plainly read by the most casual observer on the countenance of the receiver. If favorable there is an exultation of joy; if not then the countenance displays to the discerning eye that the recipient has failed and with head bowed down he suddenly withdraws and disappears around the corner of the nearest street.

Graduation

The following Saturday is graduation day, the acme of his life as he imagines it has arrived. The climax of his hopes and ambition. Sad disappointment as he soon learns that he has merely begun the battle of life. How buoyant is his heart today—friends who have been interested in his success, he has invited

to participate with him in his joy. What a concourse of people—what a variety of beauty and contrast of color with the audience composed mostly of lady friends of the graduates. How sweet the music; how animating the occasion. The long years of toil are forgotten in the excitement and it seems but yesterday when he first entered as a student. Yet there is a strain of sadness which passes through his mind. Today is the last time we shall all meet again, he thinks. Ties of friendship and love which have been formed must be broken. We will shake the hand of each fellow student for the last time as we bid him a long farewell, with God speed. Dear Polk, my fellow room-mate with whom I have been closely associated and learned to love as a brother, we must part. May your life be a success—I shall always be deeply interested in your welfare—and as we take each other by the hand a tear is seen to glisten in the other's eye. We part. Each one now starts out alone on his life's work.

The young man as he emerges from the medical college imagines that he knows something regarding the theory of medicine, possibly he may, but there is one essential factor of which he has no knowledge and that is—experience. Reading cannot impart it; it may point out the way and teach us what to look for but experience must be gained at the bedside. Well, may the young practitioner envy his older brother who has been taught in this school. The thoughtful young man realizing his great deficiency is always on his guard lest he make some egregious error. Those who are egotistic often find themselves and their patients in such straits that it is necessary to call in the aid of an older and experienced brother to extricate them from their embarrassing position. A good motto is *make haste slowly*.

Neophyte

The young doctor has chosen to start on his life work in his native town. Probably he soliloquizes: The people know me—they are charitable, they will make due allowance for any deficiency. They will be sympathetic, they will be kind. Do not over estimate your abili-

ties or the power of your insinuating graces. Success will depend upon your intrinsic worth and merits alone. Be honest—be true—be industrious. *Honesty is always the best policy*. Be honest with your patients—be honest with yourself. Be true to the profession you have chosen. Hold its banner high and never let it trail in the dust. Be industrious—no one wants a lazy doctor. Labor will bring its sure reward. Be content to wait. You may wait long but wait patiently—few people want a young doctor. They are unwilling to give up the trusty and tried for something new, and they should be respected in their choice and good judgment.

Every practitioner must attend his first patient. There is great sympathy for the patient, there are hopes his convalescence will be rapid and his recovery complete. However, the day will arrive when probably the Sr. Doctor is out of town or is sick and you are called upon to attend a patient. The messenger informs you your services are needed at once. Your heart palpitates. You hurriedly gear your horse (as you are not able to employ a hostler) and with medicine case well equipped you start on your first visit. You may imagine yourself of some importance. To the people you meet on the street there is something unusual in your gait—your horse is sprightly, you have not time to keep behind the slow team which is ahead, but, reining your horse to one side, pass swiftly by—the wheels spin, your horse speeds on. Once out of town the young doctor begins to cogitate what probably can be the trouble with the patient. Will I be able to diagnosticate the case? If the symptoms are so and so what disease do they indicate—what remedies shall I administer and what are their doses? The space of half an hour brings you to the home of your patient. You alight, tie your horse and announce yourself at the door. It is opened by a pleasant looking woman of middle age. You see on her countenance a look of surprise and she hesitates to invite you in—an embarrassing moment to you. You falter and endeavor to explain that Doctor H. is sick and unable to come and you were requested to come in his stead. After hearing your explanation

she replies, "Well come in". You endeavor to seem composed and make a remark about the weather. You receive no reply. Possibly, you say to yourself, "The hostess is too absorbed in her own thoughts or did not hear me." You are charitable and excuse her.

Finally you are ushered into the sick room. A man is lying on the bed. You approach him—a chair is handed you and you sit by his side. You inquire into the history of the case. You take his hand and endeavor to feel his pulse. "Will I find it on the radial or ulnar side?" you ask yourself. "Radial", you say. What does it indicate: is there fever?" with many symptoms running through your mind you endeavor to isolate from among them a trace indicative of some certain disease. From their incoherence you fail and frankly admit inwardly to yourself that you know absolutely nothing about medicine in general and particularly nothing about this case. When questioned by the anxious wife in regard to her husband's illness you assume a dignified air and knowingly reply: "Well, he has a slight attack of biliousness", and endeavor to quiet her apprehensions by adding that you think there is nothing serious, and hope after leaving him some simple remedies that he will soon regain his health. The wife hopes so too. You leave instructions how the medicine is to be administered; grip your medicine case; promis-

ing them you will return the following day and making a courteous bow, bid them adieu. Fortunate for the patient and yourself that he is not suffering from a dangerous malady!

You congratulate yourself on your exit, that you have made the first step. As you ride back home you hope that you have made a favorable impression and that the patient will recover. You ask; "Did I prescribe the right medicine? Surely I have given him nothing dangerous—if it accomplishes no good it will do him no harm." Upon your return you take some medical work from the shelf and carefully read. You read with more energy and interest than ever before. The book seemed dry at college, but now every page bears its import with redoubled meaning. You read until mentally exhausted. Replacing it on the shelf, you reflect. You retire early but your sleep is broken. Your patient is on your mind. At the first peep of dawn you are wide awake and making an early start, are off to see him. They receive you cordially. You are pleased to find your patient better—in fact, he is out of bed sitting by the fire. You have gained their confidence. They are assured you know something of your profession. You spend a few moments in pleasant conversation, informing them it is needless to call again, and bid them good day.

Continued in the May issue

EDITORIAL

Your editor has long felt, and frequently expressed himself, that state medical journals should not compete, in content, with either general journals of national distribution or the specialty journals. We have felt, and have operated toward the goal, that our journal should contain material specific to the State of Delaware.

It was a result of this policy that the physician's hobby page was begun more than six months ago.

This issue marks the beginning of what we hope might be a new trend in material.

Dr. Robert B. Hopkins of Milton, was for years the leading physician in not only his

town but the general area. He served as President of our Society.

In addition to his professional and civic achievements, Dr. Hopkins was a well rounded man with diverse interests and accomplishments.

Beginning elsewhere in this issue we are publishing for the first time a manuscript written in the early days of his practice. Of necessity it will be presented in several installments.

Doctor Hopkins was an outstanding man. There were others in our state and the Journal hopes that this article may be a stimulus for others.



Delaware Academy of General Practice

THE UROLOGICAL EXAMINATION IN MULTIPLE SCLEROSIS

Multiple Sclerosis is a complex neurological disease which involves several systems of the body. Adequate evaluation of the patient requires medical teamwork. The urological system becomes involved early in this disease therefore, it is essential that a definite program be followed.

Dr. James J. Gallagher, urologist, was asked to outline the essential information which a general practitioner could use in his examination of the multiple sclerosis patient.

"When taking the history, a recording of the voiding pattern is of utmost importance. This consists of the frequency, both diurnal and nocturnal. Whether or not there is hesitancy with urination, straining with urination or interrupted voiding should also be elicited. The caliber and force of the stream should be determined. Whether or not there is double voiding should also be determined, and the presence or absence of incontinence should be recorded. Any history of previous urinary tract infections should also be obtained.

Laboratory examinations should include a urinalysis. A midstream urine should be obtained for smear, culture and sensitivity in males, and catheterized urine for the same purpose in females. If there is any reason to suspect damage to either upper tract, an intravenous pyelogram should be ordered.

Physical examination should include examination of the meatus and prostate in males and the urethral meatus in females.

Special examination should include estimation of residual urine, a cystometric examination and cystoscopy. If there is any amount of residual urine present, it will make any infection which may be present difficult to control. Cystometric examination is helpful in determining the bladder capacity and the presence or absence of motor and sensory disturbances. Cystoscopy is helpful in ruling

out the presence or absence of obstruction and the state of the bladder. However, the limitations of cystoscopy to rule out obstruction at the vesical orifice, especially in females, should be known. It should also be realized that obstruction can exist concomitantly along with the neurogenic bladder associated with multiple sclerosis.

Practically, when dealing with this group of patients, there are two types. First, those with urgency and urgency incontinence. This group of patients generally has an uninhibited type of bladder and a small capacity. Bladder is also prone to having residual urine present. This type of patient has lesions in the spinal cord which have eliminated the impulses coming from the inhibition center in the brain. These symptoms mentioned above can be controlled by the anti-cholinergics, such as atropine, bantane, pro bantane and Darbid. The second group of patients are those with obstructive symptoms, simulating obstruction at the vesical neck. These symptoms can be controlled by Urocholine, urethral dilations and sometimes transurethral resection of the vesical orifice. In both these groups of patients, any attempt to reduce residual urine by time voiding, double voiding and the use of suprapubic pressure (Crede) is helpful.

In patients with advanced disease who have total loss of bladder control requiring indwelling catheters, a definite program also should be worked out. The infection in the bladder should be controlled by the use of suitable chemotherapy agents and sulfa drugs and Mandelamine. These are invaluable for this purpose. Presence of incrustation about the catheter should be controlled by irrigation with 1% acetic acid solutions and a liberal intake of fluid. The catheter should be changed when necessary.

(Continued on Page 122)



President's Page

A PREVIEW OF HOSPITAL UTILIZATION REPORT

The Medical Society has had a committee working for some time on ways to improve utilization of hospital facilities, in view of the existing shortage of beds, which is in turn primarily due to a lack of personnel. Their full report will be published in next month's Journal. Meanwhile, because I think their conclusions should be considered carefully, and should have all possible exposure, I am abstracting some of the points of the first draft of the report, pending its review by the Council. I am concentrating, as the committee is, on recommendations that could be implemented quickly, or relatively so.

The home-care programs should be expanded and better use made of them. Arrangements should be made to provide more home-making or custodial services for patients who are medically qualified for home care, but who don't have suitable homes. Government can meet the costs of these arrangements economically when they lower the net costs of hospital care programs, and should do so.

There should be better utilization of nursing beds outside hospitals. This applies to state-operated and to proprietary beds. The medical staffs might profitably review indications for transferring relatively short-term patients to nursing homes when the need is

for nursing care rather than general hospital facilities. There should also be arrangements for coverage of nursing homes by physicians with more economy of time than there is now.

The increased use of preadmission diagnostic work would result in shorter stays. Obviously, this is not always possible. More emphasis on it when it is practical would save bed time.

The utilization committees, generally, are doing a good job, despite limitations. More lay staff would permit a better job and would also allow the committees to concentrate more on the development of optimum utilization standards, which are not fully understood.

Finally, the committee makes an urgent call for more central planning for health facilities in Delaware, to provide for more orderly development of the state's health resources, and to guide that development.

You will find the report well worth reading. It will provoke some disagreement, but the suggestions are made seriously and deserve serious consideration.

A. M. Gschert

OSTEOMYELITIS IN LONG BONES

(Continued from Page 101)

zation and skin grafting performed, all have done well. Five patients had amputations performed. One of the patients required two procedures on the stump following amputation in order to fit him with a prosthesis. All five patients were successfully fitted with prostheses. Two patients have expired from other causes, but the remaining 3 wear prostheses and have been rehabilitated. They required no further inpatient hospital care.

Conclusions

1. Conservative treatment should be attempted on all patients with chronic osteomyelitis and is usually successful in patients who have only an occasional episode of difficulty spaced over long intervals or when pain is present without drainage.

2. Surgery is indicated when drainage is persistent or frequently recurrent and prevents regular gainful employment. The procedures indicated include removal of metal, sequestrectomy, continuous irrigation of closed wound after extensive sequestrectomy, or saucerization and split thickness skin grafting. In rare instances amputation may be the treatment of choice, if associated severe complications exist in addition to the chronic osteomyelitis.

3. A satisfactory result can be obtained in most patients with osteomyelitis of long bones if a positive program is established and individualized to the needs of the patient.

References will be supplied by the Journal on request.

**UROLOGICAL EXAMINATION IN
MULTIPLE SCLEROSIS**

(Continued from Page 120)

The mechanism of interference with control of the bladder is involvement of the suprasegmental pathways in or adjacent to the pyramidal tracts of the cord and to lesions in the posterior columns. It is well to realize, however, that apparent recovery at times occurs and the course may be episodic in nature.

Operations on the vesical neck are not advisable in the acute stages of this disease and spinal anesthesia is also contra-indicated."

George J. Boines, M.D.

SYSTEMIC LUPUS ERYTHEMATOSUS

(Continued from Page 109)

with the diseases would be of some significance. It should be noticed that the effect produced by the antigens seems to be related to the concentration of the antigen solution used. When the 0.1 mg% solution was used there was no apparent effect of the antigen upon the cells, on the other hand, in previous experiments when we used concentrations above 15 mg%, toxic effects were observed due to changes in the pH of the culture medium after a few hours of incubation.

We could also assume that the damage observed in the cells when using the 1 and 10 mg% concentrations could be due to either toxic or hypersensitivity reactions. The fact that the normal cells did not present those changes almost rules out the toxic factor and leaves the hypersensitivity factor as the possible cause for those cells reactions.

It is also very interesting to notice that the only rheumatoid arthritis patient whose cells showed similar changes to the SLE patients' cells was one that at one time was considered to have SLE rather than RA because of so much of systemic symptoms and because it is also well known that these two diseases overlap each other very often.

The absence of positive LE cell preparations in those two SLE patients did not seem to correlate well with the presence of positive results in the vitro studies. Because of the lack of technical facilities, we did not do any other studies to look for the presence of circulating antibodies to the antigens used in our experiment.

Because of the small number of patients tested, we can not draw any definite conclusion, but the results encourage us to keep working in the same field to try to collect more data.

We do not think the technique we used will be helpful as a diagnostic tool, but if the lymphocytes from those patients showed a true hypersensitivity in vitro, it will help to substantiate or support the theory that claims that those diseases are autoimmune disorders.

References will be supplied by the Journal on request.

Editorials

We have never done business with the Warner & Swasey Company, and in view of their product line, which consists of heavy equipment, we doubt that other members of the medical society have or will. We do think, though, that there are things that need to be said from time to time, and that Warner & Swasey have said one of them particularly well in their advertisement below.

This first appeared as a paid advertisement in *Newsweek*. We've asked and received permission to reprint it here as a guest editorial. We haven't seen the message better put. In a time when corporate success is all too often the high road to the Congressional Committee, we think that an outstanding effort at corporate citizenship should be recognized.

For every Right there is an Obligation

IF you kept telling a child about his rights and never about his duties, you'd soon have a spoiled brat on your hands. We're doing the same thing in this country but on a vastly more dangerous scale.

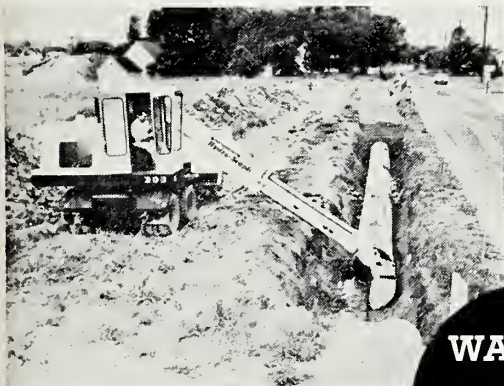
The "right" of unions to strike for more pay but no obligation to earn it.

The "rights" of new nations to independence but no obligation to prove they deserve it, no obligation to use freedom for the good of mankind.

The "right" of young people to education but no obligation to pay their own way to get it.

The "rights" of criminals and communists to flout the laws of our land, without any obligation to contribute to its worth and its freedom.

Spoiled children grow into adult criminals, who have to be punished by the decent society they defy. Why wait?



The 300 Hydro-Scopic®, new Warner & Swasey telescoping boom saves costs on municipal maintenance work.

**WARNER
&
SWASEY**
Cleveland

PRECISION
MACHINERY
SINCE 1880

Hobbies

THE FORGOTTEN JOY

OF MOTORING

HARRY J. REPMAN, M.D.

In this frantic age we live in, we appreciate a good automobile—it rides smoothly, has good pick-up, is low on gasoline, and altogether, is pleasant to drive but is essentially a vehicle to get us from one place to another. Our fathers, and some of us, remember the automobile of 40 and 50 years ago when, in addition to going from here to there, there was the pure joy of being in a moving vehicle and traveling slowly through the country side. Several years ago my wife and I drove to Dover for the chicken festival. I had been over that road innumerable times, always driving to get from here to there but as I cruised along at 35 miles per hour—not quite top speed—I was amazed at all the things I had never seen before. What I'm trying to say is that there is more to owning an old car than the pride of possession and going to car meets to see other cars. There is a little escape from reality, a nostalgic journey back to an age that was less hurried.

I was at a church supper back in 1957 and sat next to my friend, Bill Conrad. Our conversation turned to old cars and I expressed an interest in having one. It wasn't many days later he called me. We drove to Media, and there it was—dirty, canvas top in tatters, rust holes in the body, leather seat split—but ALL THERE! No parts missing—a 1926 Willys Knight roadster. The motor had been worked on and there was little to be done here, but the rest of the car had to be almost dismantled, sanded, repainted, rust holes filled in, radiator and trim re-nickled, chrome plating was not in use in 1926 and a restoration must be authentic—upholstery re-



'The Snappy Little Cap is Essential

done and finally the car painted. We found an old catalogue of the Willys-Knight Co., and learned that cars of this period were, among other combinations, a two-tone grey body, black fenders, and the wire wheels a bright red, and this is what we did. The final touch was the fine red line which started on each side of the hood, back through the doors and curved down above the rear fender. When the car was almost ready, I described it to my children, and told them about the running boards, the golf bag door, the "ah-oo-ga" horn and the rumble seat. One of my girls looked at me and said, "Daddy, what is a rumble seat?"

Parts for the car are no problem, which is not too surprising when you think that the automobile age is really only 60 years old, and all of us tend to collect old pieces of junk in the corner of the garage.

One Sunday afternoon I stepped on the starter, there was a loud crack and I had broken the Bendix starter spring. Disaster! I called on an old friend of mine who had worked on the car with me and cried to him over the telephone. "Relax, Doc. I'll call you back! He went to an old box of parts in the back of his garage, dug through and found a brand new spring, drove out, replaced the broken one and by 4 o'clock I was happily motoring through the country. Another time,

on the very morning I was to leave to drive to Hershey, Pa., for the National Antique Car Meet—always the second Saturday in October, and last year there were over 1000 cars there—I decided to straighten my Boyce Moto-Meter (some of you will remember this as the radiator cap temperature guage) and it shattered into a hundred pieces. Catastrophy! I drove to Hershey, parked, walked through the “Flea Market” (a five acre field of old

parts) and the second stand I came to had Moto-Meters for the Willys-Knight, new, still in the original carton. Tires? No problem. One of the tire companies has saved all their old molds and once a year, on order, will make a new tire for any car from 1900 on.

And so it goes, and so I could go on and on but I think I’ll quit now and go out to the garage and be sure the “old car,” as my kids say, is resting safely until spring.

THE TREATMENT OF INFLUENZA

(Continued from Page 112)

Chantrill et al.⁷ in a paper published in 1932 have not been able to differentiate between the protein precipitating properties of tannins and viral inactivation by them. They observed that virus was protected by the presence of excess protein, and that the supernatant of tannin containing solutions which previously has been precipitated by tannins did not destroy the virus. To which I might add that when tannic acid is taken by mouth not only does it use to modify the proteins of the extracellular virus but also those of the upper layers of the mucosa. These usually become detached and show up as a white membrane which can be expectorated. The fact that influenza can not be aborted after the virus has penetrated the deeper layers of the mucosa has been stated by me, That some of the modified virus protein remains in the body is also apparent and I believe that these modified virus proteins may exert a beneficial action upon the course of the disease.

Summary: My clinical experiences in the private practice since 1939 appear to suggest

that: 1) in the incipient stage of influenza the virus can be inactivated completely and the disease aborted by tannic acid powder taken per oz. 2) The course of the disease can be ameliorated by the administration of tannic acid in the advanced stages of the disease. 3) Inhibition of the virus in the incipient cases of the disease does not result in any significant degree of immunity and reinfection can be expected when contact with other cases continues. 4) One dose of tannic acid is usually sufficient for aborting incipient cases and decreasing the virulence in advanced cases of influenza. Because of the injury to the oral mucosa at least two days should be allowed to pass before another dose is given. 5) Neosphyllaxis as introduced by me appeared to be useful in ameliorating the course of the disease especially in severe cases which appear to be resistant to tannic acid. 6) Antibiotics are absolutely contraindicated in influenza, since they destroy the ecological competition to the virus, aggravate the symptoms and prolong the stage of asthenia following influenza. 7) Laboratory experiments by others appear to confirm my experiences with tannic acid.

References will be supplied by the Journal on request.

NOTICE OF SCIENTIFIC AND CLINICAL MEETINGS

Members of the Medical Society are invited to attend the Bicentennial Anniversary Meeting of the Medical Society of New Jersey to be held on Saturday through Wednesday, May 14-18, 1966 at Haddon Hall, Atlantic City.

New Facets of Cancer in 1966 is the title of a scientific three-day faculty alumni reunion to be given under the sponsorship of the Temple University Department of Surgery, May 5th at the School of Medicine, Phila. Among topics to be treated will be “What is the Cancer Risk of the Contraceptive Pill?”, “Controversial Aspects of Cancer Treatment,” and “New Concepts in the Prevention of Cancer.” The scientific program May 6, will feature the Clinical Colloquium at which physicians may make rounds with members of any of the clinical departments at the Health Sciences Center.

In Brief

Drugs, Doctors And Labels

Family doctors have been urged by the American Academy of General Practice to request pharmacists to label prescription drug containers with the name and strength of the contents in order to aid ready identification—especially in emergencies. This action is designed to (1) help prevent death or attempted suicides in children by enabling *immediate* identification of the drug taken and the proper antidote; (2) help persons when moving or changing doctors to identify, for the new doctor, a drug being taken; (3) advise patients with allergies as to prescription content so they can identify drugs that previously have caused reactions; (4) prevent mix-ups between two or more drugs taken concurrently or between drugs when taken by different members of the family. The Academy feels the patient has a right to know the nature of his illness and what is being prescribed for it and that today's patient is sophisticated enough about drugs and their dangers to use the knowledge wisely.

In The News

Three reappointments of member physicians have been announced by the AMA: Lemuel C. McGee, M.D., as a member of the Committee on Occupational Toxicology of the Council on Occupational Health; William O. LaMotte, Jr., M.D., as a member of the Council on Legislative Activities; H. Thomas McGuire, M.D., as a member of the Council on Mental Health and the Committee on Mental Health in Industry; E. W. Hainlen, M.D., honorary member of this Society is editor of the *Scalpel and Tongs*, publication of the medical section of the American Topical Association (ATA).

AEC Will Require Reports

The Atomic Energy Commission is planning to require reports from licensees on all receipts, transfers and inventories of privately owned "special nuclear material." This term refers to plutonium, uranium 233 and uranium enriched in the isotope 233 or the isotope 235. As it is now possible for this material to be privately owned, the Commission is responsible for seeing that it is not diverted to purposes inimical to the security of the country. Reports will have to be submitted by licensees to the Commission. Persons wishing to submit comments have until May 28. U.S. Atomic Energy Commission, Washington, D.C. 20545

The Month In Washington

The Johnson Administration has proposed the following legislation which would expand the authority and responsibilities of the FDA in policing drugs:

To prohibit manufacturers from mailing physicians free prescription drug samples except when specifically requested; To ban door-to-door distribution of samples of over-the-counter drugs.

The legislation would have Congress find that. "1) the mass of unsolicited samples of prescription drugs supplied to licensed practitioners by mail by manufacturers and distributors has led to large-scale discarding and other disposal of unwanted samples which are finding their way into the hands of persons who scavenge and repack such drugs and sell them to pharmacists for dispensing of prescriptions in the same manner as regular

stock drugs; 2) children have obtained carelessly discarded samples; 3) the dispensing or sale of a prescription drug sample to a patient for a fee without identification of the drug as a sample is a deceptive practice; 4) the unsolicited distribution of non-prescription sample drugs directly to householders lacks minimum safeguards." Labels would have to read "Sample Drug. Federal Law prohibits Any Charge or Fee for this Drug."

New Program Seeks Information

The Wilmington Medical Center's Out-Patient Services Committee will meet weekly at 9:30 a.m. at the Library Annex—Nurses' Residence, Delaware Division. They plan to work out a comprehensive out-patient program, and are seeking information on the topics scheduled below. Anyone is invited to offer information at any session.

Listed below are the dates and topics for the next six meetings. Approximately every fifth meeting will be an administrative one for administrative procedures and possible sub-committee reports.

Date	Topic
April 27, 1966	3. Home Care Program
May 4, 1966	4. Out-Patient Laboratory Services Provided by the Department of Pathology (Include special Pediatric problems)
May 11, 1966	5. Special Out-Patient Services I A. Physiotherapy B. Radiology 1. Diagnostic 2. Therapeutic
May 18, 1966	6. Special Out-Patient Services II A. Audiology B. Blood Bank C. Cardiology D. Electroencephalography
May 25, 1966	7. Clinic Registration Procedures A. Eligibility B. Screening Procedures C. Fees
June 1, 1966	8. Administrative Meeting

New Pharmaceutical Drug Plan

Lederle Laboratories has announced a new plan to cut the cost of drugs in state welfare vendor programs. Known as the *Lederle Welfare Drug Equalization Plan*, it is aimed at averting pressures to prescribe drugs of uncertain quality in the name of public economy. Lederle will provide an allowance to state welfare departments amounting to the difference between Lederle's published catalog price to direct retail pharmacists and to institutions. There would be no change in the present practice of writing prescriptions for welfare patients. These would continue to be filled at the neighborhood pharmacy.

Speakers On "Doctor's House Call"

Speakers scheduled for April on the Tuesday radio program, (11:05 a.m. WDEL) produced by the Medical Society of Delaware are: May 3: David J. Reinhardt, M.D., *Heart Failure*; May 10: Arthur J. Heather, M.D., *Physical Rehabilitation*; May 17: Allan H. Seeger, M.D., *RH Problems During Pregnancy*; May 24: Gregory Sarmousakis, M.D., *Marital Problems*; May 31: Richard Brams, M.D., *Insect Bites*.

Auxiliary Affairs

PROFILE—PRESIDENT OF THE WOMAN'S AUXILIARY TO THE AMA



Mrs. Richard A. Sutter

Mrs. Richard A. Sutter, of St. Louis Missouri, was installed as president of the Woman's Auxiliary to the American Medical Association at the 42nd annual convention in June, 1965, in New York City.

Mrs. Sutter served as president of her St. Louis County Auxiliary in 1948-1949 and of the Missouri Auxiliary in 1952-1953, and continues as an active board member of both. Following her three years as a regional chairman on the AMA Auxiliary Committee on Mental Health, she chaired the National Mental Health Committee for two years. For the past three years she has been a member of the national board, serving two years as vice president for the North Central region and one year as president-elect.

Betty Henby Sutter is a native St. Louisan and is a graduate of St. Louis' Washington University. Her husband, to whom she was married in 1935, holds both A.B. and M.D. degrees from Washington University. Dr. Sutter, a past president of his Medical Society as was his father before him, is a member of the AMA's Council on Occupational Health.

The Sutters have three children: John, who has an A.B. from Princeton and a Masters in Business Administration from Columbia University, served three years as anti-submarine officers aboard a destroyer, is married and is associated with Price Waterhouse in New York City; Jane, a Vassar graduate, is with

Ogilvy, Benson and Mather, Inc., Advertising in New York City, and Judy, who has a degree from Bradford (Mass.) Junior College and Washington University, does fashion publicity for Marshall Field and Company in Chicago.

The St. Louis Globe-Democrat recognized Mrs. Sutter as a woman of achievement in 1961 as a "Good Citizen." Who's Who of American Women and Who's Who in the Midwest list her as a "civic leader" and note among responsibilities she has assumed: chairman of the St. Louis County Health and Hospital Board; chairman of the Citizen's Committee which was successful in obtaining passage of an ordinance to fluoridate the water supply of St. Louis county; president of the Tuberculosis and Health Society for three years; chairman of the Practical Nurse Education Council; member for ten years of the Planning Board of the Health and Hospital Division of the Health and Welfare Council of St. Louis; Advisory Board, Deaconess Hospital School of Nursing; Board, St. Louis unit of the American Cancer Society and of the St. Louis Health Association; Advisory Council on Volunteers of the National Association for Mental Health; Board of Trustees of John Burroughs School, Historic Buildings Commission of St. Louis County, an official agency; Deaconess and chairman of the Finance Committee for six years of the Women's Association of the First Presbyterian Church of St. Louis.

THE MANAGEMENT OF DECUBITUS ULCERS

• This article describes the etiology, prevention and treatment of decubitus ulcers. The development of present surgical methods is outlined. Basic concepts for closure of these ulcers are discussed and the different techniques needed for individual ulcers stressed.

DAVID E. SAUNDERS, M.D.
ARTHUR R. JASION, M.D.

The treatment of decubiti prior to World War II was mainly by local applications of various ointments together with an attempt to improve the patient's nutrition. The results were unsatisfactory and healing was commonly followed by recurrence. The advent of the large number of paraplegic patients associated with a war demanded better understanding. As understanding increased, the treatment became more successful and the recurrence rate was drastically reduced. This improvement was partially due to better prophylactic care, but largely to improved surgical techniques.

History

The importance of pressure in the formation of skin decubiti has been known for many years. Brown-Sequard¹ described this etiologic factor in 1853. It was also noted that occurrence was more common in spinal cord injuries, and Munro² (1940) suggested there was an abnormal vascular reflex due to disturbance in the sympathetic chain and that the increased incidence of ulcers in paraplegics had a neurogenic basis. Mulholland et al³

(1943) incriminated nutrition when they noted that the plasma proteins in patients with decubiti were frequently low, and suggested the tissues became changed in character so that a small amount of pressure for a brief time was sufficient to cause tissue necrosis. Kostrubala and Greeley⁴ (1947) were the first to stress the importance of the underlying bony prominences.

Surgical closure had been suggested by several authors, but the first to report a successful case were Lamon and Alexander⁵ (1945). They excised the ulcer, undermined the adjacent tissues and closed it. White and Ham⁶ (1946) used local rotational flaps, but advised against the removal of bone. Kostrubala and Greeley⁴ (1947) emphasized the importance of removing the underlying bony prominences. They rotated a small flap and used a skin graft to close the donor site to prevent any tension on the flap. Gordon⁷ (1947) used large rotation flaps, which avoided the necessity of skin grafts in the majority of cases. Conway and Griffith⁸ (1956) elaborated on the use of large flaps and stressed that the planning of the flaps should be careful so that they would be large enough to use a second time if recurrence

¹Dr. Saunders is a plastic surgeon on the active Staff of the Wilmington Medical Center; Consultant to the Veterans Administration Hospital and the Alfred I. duPont Institute. Dr. Jasion is plastic surgical Resident, Wilmington Medical Center.

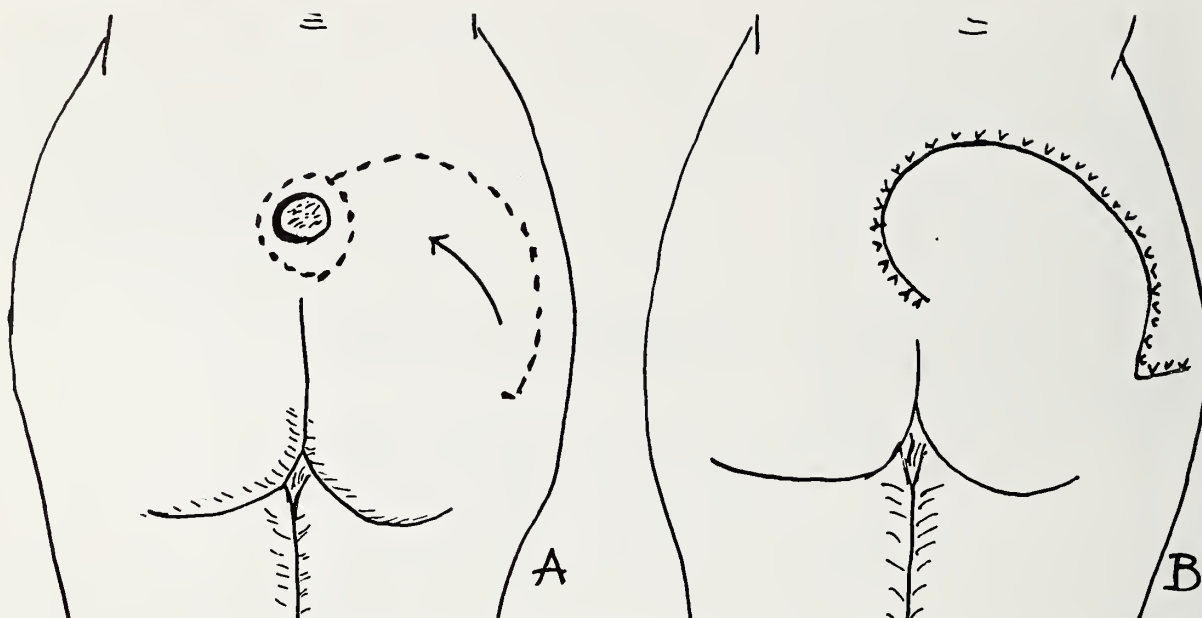


Figure 1. Diagram to represent the pedicle flap for closing a sacral ulcer. The ulcer and underlying bone are excised. A large, regional, inferiorly based gluteal flap is outlined (A) and rotated to close the defect (B). The excess length of the outer wound margin is excised laterally.

should happen; also that they should not interfere with the sites needed to close other ulcers.

Etiology

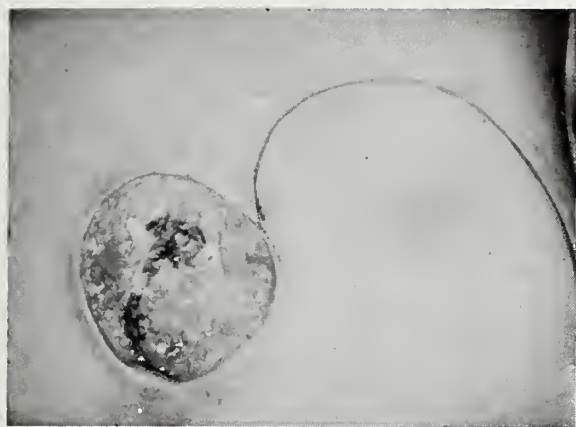
Decubiti may occur in unconscious patients, but the greatest majority are seen in paraplegics. During war, the commonest causes of paraplegia are gunshot or shell wounds to the spinal cord. In peacetime, traffic accidents, followed by mining and diving accidents, are the commonest etiological factors. Prior to the advent of antibiotics, the life expectancy of a paraplegic was short. Now it is greatly improved, and according to Gelb⁹, in 1952 there were 83,000 paraplegics in the United States.

The chief etiological factor in the formation of decubitus ulcers is pressure. This factor is so important that it has been suggested a better name than decubitus would be pressure sore. Undoubtedly, this has merit as the term "decubitus ulcer" is derived from the Latin "decubere" (lying down). However, these sores may develop when the patient is in an upright position in a wheelchair or standing on crutches. 50 to 60 mm. of mercury is suffi-

cient to arrest the circulation in the skin. However, considerable time differences are required to form an ulcer. Thus, some paraplegics allowed to sleep through the night without turning are unharmed, whereas, others after two hours in the same position will develop an ulcer.

Decubitus ulcers usually result from excessively long compression of the skin and subcutaneous tissues between the underlying bony prominence and the bed or chair upon which the patient sits or lies. Absence of sensation deprives the paraplegic patient of warning signs of discomfort when he has been in one position too long. The pathological changes which occur when an area is compressed starts with venous impairment. This causes vascular sludging and thrombosis, with necrosis of the overlying skin and subcutaneous tissues. Loss of the skin allows the entry of bacteria which causes an inflammatory reaction in the underlying muscle, bone, or intervening bursa. Later manifestations include the formation of periostitis, periarticular calcification, and osteomyelitis.

Considerable scar tissue is laid down around



A



B

Figure 2.

A. A large sacral ulcer with proposed flap outlined.

B. The ulcer, surrounding scar, and sacral bony prominences have been excised and the defect closed with the rotation flap. The wound is sutured with half-buried dermal mattress sutures to reduce scarring on the edge of the flap. Suction drains are present to prevent fluid accumulation under the flap.

C. Several months later.



C

the open wound and the arteries become thickened and their lumen diminished. They eventually become obliterated, making healing even more difficult.

Contributing factors to the formation of an ulcer are multiple. The most important is poor nutrition, which includes anemia and hypoproteinemia. Other factors include inadequate nursing, poor personal hygiene (particularly when the skin is allowed to become wet and macerated), chafing due to braces or the rough removal of adhesive tape, circulatory or lymphostasis and burns of the skin.

Prophylaxis

The occurrence of a decubitus greatly increases the hospital stay and disease morbidity. Paraplegics should be maintained on a rigid regime with good nutrition, a high pro-

tein, high calorie diet, additional vitamins, iron, and where anemia is present the transfusion of blood. Sudden or chronic trauma to the skin should be carefully avoided. Until the patient is able to care for himself, he should be treated on a Foster or Stryker frame bed, of which the CircOlectric is the most desirable. Routine two-hourly turning should be observed. The skin should be kept scrupulously clean and dry. Split sponge rubber mattresses should be used to distribute the weight and avoid pressure on single areas. When the patient is able to sit, the chair must be well padded with layers of firm rubber, preferably covered by a lambs wool pad.

Treatment

The best treatment of decubitus ulcers is achieved by prophylaxis. Maintenance of tissue proteins and prevention of anemia, to-

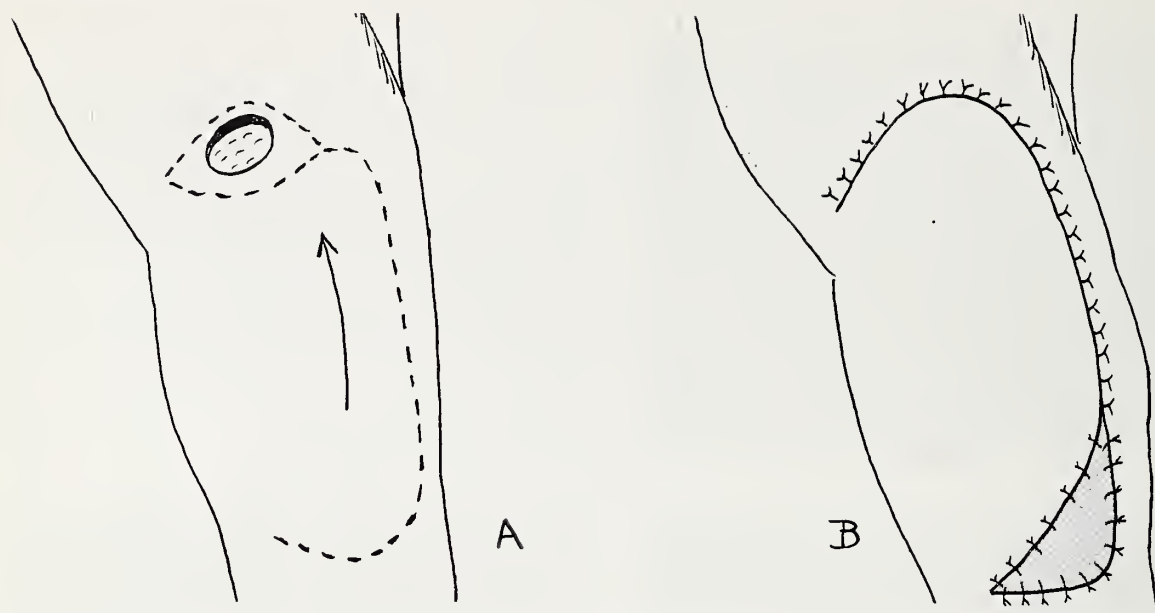


Figure 3. Diagram to show the flap for a trochanteric ulcer. The ulcer and greater trochanteric of the femur are excised and a large inferolateral flap outlined (A). The wound is closed by rotation of the flap (B). A split thickness graft is usually needed to relieve tension on the flap. (shaded area)

gether with regular turning and proper skin care will reduce their incidence. Added to this, in some cases, the removal of underlying bony prominences such as the sacral crests, the ischium and the femoral trochanters will help to remove important etiological factors.

Once a decubitus ulcer has formed, the indications for closures are prevention of the complications that may occur. These include osteomyelitis, pyarthrititis, amyloidosis, carditis and death due to these complications. The early correction of infection, debridement of the ulcer and closure are of the utmost importance. Allowing the ulcer to spontaneously heal or resurfacing it with a split thickness graft leaves a thin unstable surface which breaks down on minimal trauma. Thus, the aim of surgical closure is to remove the ulcer and resurface the area with a flap containing healthy skin and underlying subcutaneous fat for padding.

Preoperative Care

Patients with decubiti should be kept recumbent until the wounds are closed. They should be nursed on a well padded frame bed.

Muscle spasms will jeopardize any surgical attempt and therefore it is necessary to correct a spastic paralysis to a flaccid state. Rhizotomy is the preferable method for this, but is sometimes impractical in the presence of an open wound and subarachnoid alcohol injection will give the necessary temporary relief. Local treatment to the ulcer consists of surgical debridement as soon as a demarcation line is evident. Wet dressings, frequently changed, will rapidly convert the surface to a clean granulating wound. A temporary dressing split thickness graft may be used to close the wound, but is generally unnecessary and prolongs the hospitalization. Surgery can be safely performed in the presence of a clean granulating wound. General care includes correcting hypo-proteinemia and anemia. The hemoglobin should be raised to the level of at least 12.5 grams. Urinary tract infections must be controlled.

Surgical Treatment

Griffith and Schultz¹⁰ stated that the basic principals for closure of a decubitus ulcer were:

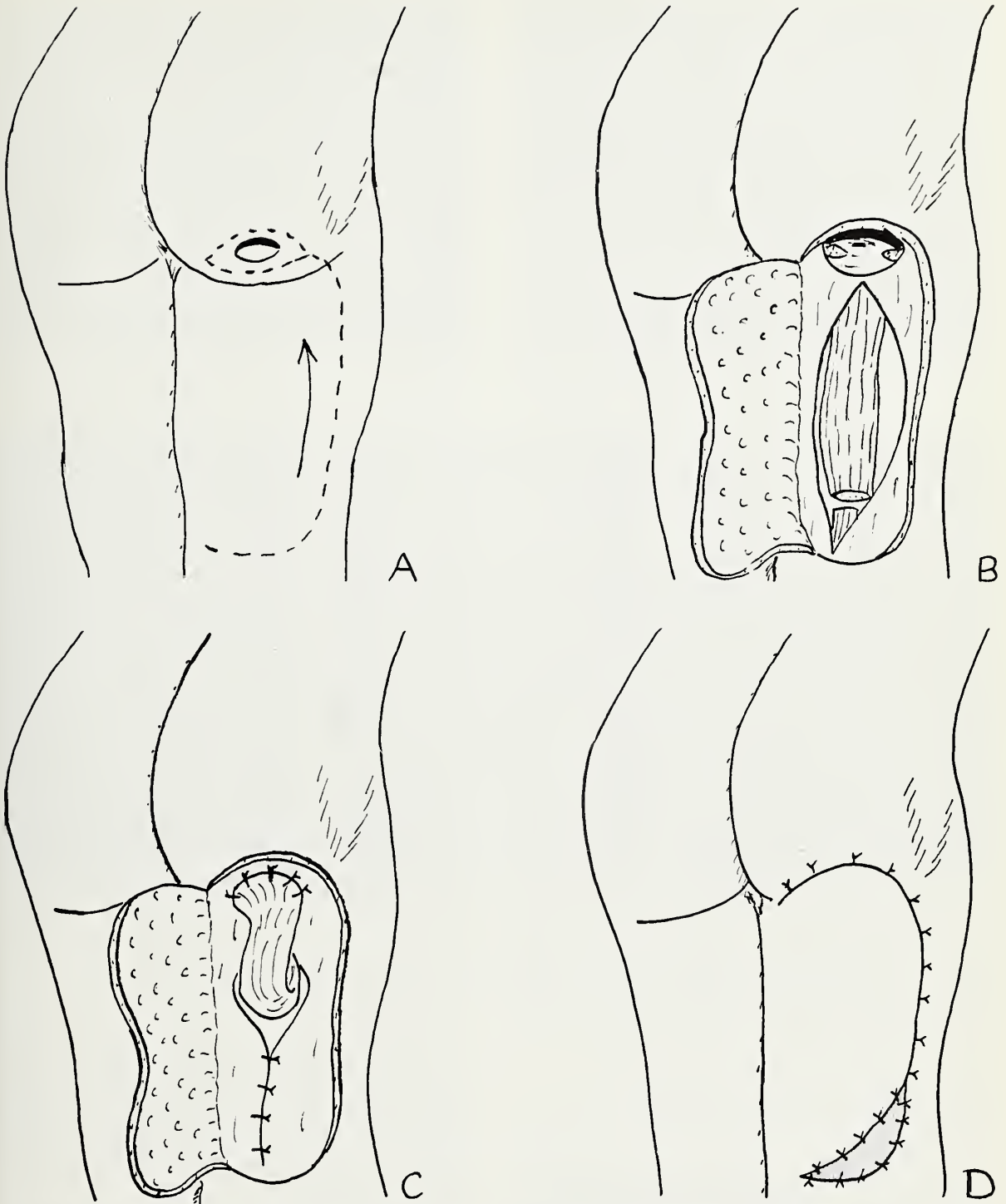


Figure 4. Diagram to show the technique for closing an ischial ulcer. A. Proposed flap. B. Ulcer and ischium have been excised leaving a large defect and exposed bone ends. The flap has been turned back exposing the biceps femoris muscle, which is divided. C. The muscle is turned back on itself and sutured into the defect created by the ischiectomy. D. The flap rotated. A split thickness graft is usually needed to relieve tension and is placed inferiorly (shaded area).

1. Excision of the ulcer and surrounding scar tissue, any underlying bursa or adjacent calcific processes.
2. Thorough resection of underlying bony prominences.
3. Coverage of the bone with muscle or fascial flaps where feasible.
4. Careful hemostasis at the time of operation.
5. Closure of the wound with a large regional flap.
6. Postoperative wound suction.
7. Careful closure of the wound.

The operation is preferably performed under general anesthesia as the procedure is long and tends to produce shock. Gentle handling of the tissues and careful hemostasis is of the utmost importance. Hematomas may become infected or cause abnormal pressure on the flap with necrosis of the affected part.

The flaps used for resurfacing the wound should be large and have at least a length to width ratio of one to one. Preferably they should be wider than long as this improves the blood supply. The large flap allows a second rotation if a recurrence occurs. The use of a small flap with a split thickness graft in the donor site reduces the surgical procedure, but has the disadvantage of spoiling the site for future use in the event of a recurrence and unfortunately they still do appear. The flaps should be constructed so they will not interfere with a flap needed for an ulcer in another area. The suture line should be kept away from any pressure areas. Closure of the wound includes subcutaneous approximation with catgut and closure of the skin with a horizontal half-buried dermal mattress suture to avoid puncturing the edge of the flap.

The surgical methods designed for closure of frequently occurring ulcers are:

1. *Sacral*

The lateral and medial sacral crests must be removed. A large regional flap based inferiorly is raised from the gluteal area. (Figures 1 & 2) A split thickness graft may be required to relieve tension on the flap and if so it should be placed over the upper outer part of the gluteal muscle.

2. *Trochanteric*

The greater trochanter of the femur must be excised. Coverage is with a large rotational flap based infero-laterally on the thigh. (Figure 3) The length to width ratio should be approximately one to two. It is important to avoid the posterior thigh where the skin may be needed for an ischial ulcer. A split thickness graft is usually necessary to relieve tension on the flap and is placed inferiorly where the muscles give satisfactory padding. If an ischial flap has already been raised it is better to use a superio-lateral flap to avoid interference with its blood supply.

5. *Ischial*

The ischial decubitus is best treated by total ischiectomy, a biceps muscle flap and rotation of a large flap based medially on the posterior surface of the thigh. (Figures 4 & 5) The length to width ratio should be in the neighborhood of one to two. Ideally, a laterally based flap is better as it does not place a scar near the site needed for a trochanteric ulcer, but Conway and Griffith⁸ found this was frequently associated with a partial separation of the wound in the gluteal fold.

A muscle flap is of particular importance in the case of the ischial decubitus. Resection of the ischium leaves a large defect which will become filled with blood and serum and represent an ideal culture media for bacteria. The biceps femoris muscle is freed for half its length, divided and turned back on itself. The free end is used to fill the hole so reducing the likelihood of the complication and satisfactorily covering the bone ends.

4. *Other Sites*

Ulcers occur in sites besides those around the pelvis. Any area with an underlying bony prominence may cause problems. Thus, the heels, knees, elbows and general torso are sometimes affected. The principals for closure of these ulcers are the same. (Figure 6)

Postoperative Care

The patient should again be placed on a frame bed and turned two-hourly. The wound must be dressed with bulky dressings sufficient to prevent any pressure on the new flap. The wound is usually sufficiently healed to



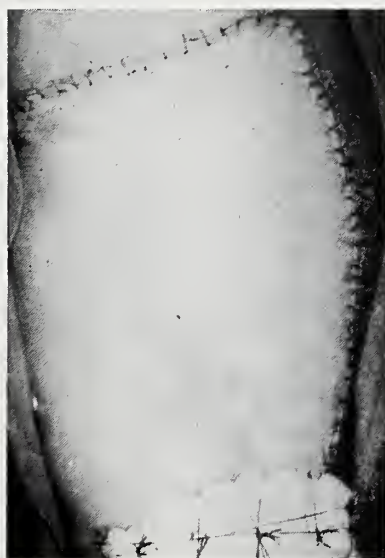
A.



B.



C.



D.



E.

Figure 5. A. A patient with sacral and ischial ulcers. B. Following closure with a gluteal flap. The ischial ulcer was directly excised, but it later recurred. C. Plan for the recurrent ischial ulcer. D. The flap has been rotated and a split thickness graft placed inferiorly. It is held in place by foam rubber stent. E. One year later.

allow passive exercise to the limbs in two weeks. The patient is allowed to sit in a chair in three weeks, but this must be well padded and he must be encouraged to move frequently. Careful local care with maintenance of a dry clean skin is necessary to prevent recurrence. Muscle spasms must be permanently controlled.

Early ambulation, where feasible, is encouraged to complete the rehabilitation of the paraplegic patient.

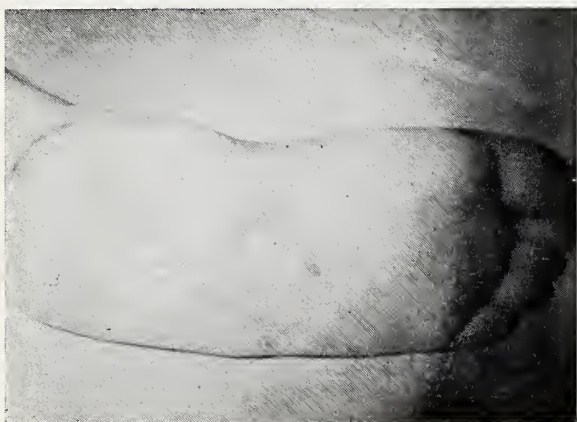
More drastic measures have been suggested for the care of ulcers in paraplegics. Georgiade et al¹¹ (1956) reported on the use of total thigh flaps after excision of the femur. However, these were for patients with a large ulcer or with pyarthrosis and osteomyelitis of the femur. They suggested that their use be reserved until more conservative methods had failed. Chase and White¹² (1959) suggested that bilateral above-the-knee amputation had a place in the care of paraplegics. This gave



A.



B.



C.

Figure 6.

The basic principals used to close an ulcer over the heel of a patient who walks with braces.

A. The ulcer and proposed flap.

B. The underlying bone has been excised, the flap rotated and a graft placed in the non-weight bearing area in the center of the foot.

C. After healing.

the advantage of increased maneuverability by removing cumbersome parts, reducing weight, elimination of local pathology and a vascular pool. However, any treatment should take into consideration the patient's desires which are independence, social acceptance, freedom of discomfort and a feeling of adequacy. Bilateral amputation eliminates the normal appearance of the patient and reduces the stabilizing tether of the legs. Many patients can walk upright with the use of braces and crutches and bilateral amputation makes this impossible.

Summary

The best treatment of decubitus ulcers is prevention. Once they have occurred, the patient's general condition should be improved and surgical closure of the wound performed in the least possible time. The technique of closure includes removal of the underlying bony prominences and resurfacing with a carefully planned, large, regional flap designed to avoid interference with areas necessary for other ulcers, and the allowance of sufficient tissue for a second flap if recurrence appears.

References will be supplied by the Journal on request.

HYPNOTHERAPY,

A Treatment Tool in Medicine

- The place and value of hypnosis in medicine is discussed together with its problems and the limitations. A short history of the development of hypnosis in the medical field is presented.*

GEORGE E. VOEGELE, M.D.

Hypnosis is still in part a problematic subject as can be seen, for example, from the recent headlines in the local newspapers. It often arouses prejudices and emotional fears in physicians and lay persons alike. To quote Wolberg¹, "Fuel for these prejudices may readily be derived from the naive and dogmatic statements about the virtues of hypnosis made by a few not too well disciplined workers in the field. It is unfortunate that hypnosis has attracted misguided and over-enthusiastic disciples, who are motivated to find phenomena in the trance state that satisfies their inner needs for the bizarre. With voice and pen such persons worship hypnosis reverently, as a power that can move mountains." Confronting such overconfidence is the question, What can hypnosis really do in the medical field and what are the limitations of hypnosis?

Historical Review

Hypnosis was frequently employed in the magic-religious medicine of primitive and archaic cultures, where the medicine-man or the priest-physician utilized hypnotic trance states. Of interest in the history of medicine is the induced hypnotic sleep in patients who came seeking help for their disorders to the sanctuaries of ancient Egypt, China and Greece. In Epidaurus, for example, during such sleep, the god Asklepius was supposed to come in the form of a snake to the patients and heal them. Thus hypnosis was at that time not only a treatment tool but a religious

experience. The Pythias in Delphi were, according to some, in hypnotic trance when uttering their famous oracles. During the middle ages, hypnosis was considered as black magic and witchcraft. The first, who introduced hypnosis into modern medicine (and by this unknowingly started modern psychotherapy) was Mesmer, an eighteenth century physician of Vienna. He was not only interested in medicine, but also in philosophy and arts. He was a friend of the composer Gluck and a benefactor of the young Mozart, whose first opera was performed in Mesmer's home. Mozart immortalized Dr. Mesmer in the famous hypnotic scene in "Cosi Fan Tutte"². Mesmer being unaware of the psychological factors involved in hypnosis, believed in a fluidum which could transfer itself as "animal magnetism," thus inducing the hypnotic state.

Mesmer's ideas found wide spread acceptance (e.g. Lafayette and Washington were among his followers) and became known under the name "Mesmerism." Three English physicians, John Elliotson, James Esdaile and James Braid in the beginning of the nineteenth century developed further the use of hypnosis in medicine. The latter introduced the term "Hypnotism" and, was aware of the importance of the element of suggestion in hypnosis. Faria discovered that hypnosis could be induced by direct stare, using a commanding tone. Liebault at Nancy finally taught that sleep and hypnosis were similar in nature and that no magnetic animal fluid was involved, but only suggestion. Forel and others brought scientific recognition to hyp-

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*Based on a paper presented at the Delaware regional meeting of the American College of Physicians on Oct. 24, 1964.

nosis. Charcot in Paris believed hypnosis was an artificially induced hysteria. He, and later Breuer and Freud, used the increased suggestibility in hypnosis in the research and treatment of hysterical states. This work successfully established the emotional basis of hysteria, paving the way for the development of psychoanalysis, although Freud later abandoned hypnosis in favor of the free association technique. The use of hypnotic methods in the field of psychiatry attracted again more interest during the last war, when brief therapy for psychiatric disabilities became important. The growth of dynamic psychiatry gave rise to more utilization of hypnotherapy. Hypnoanalysis developed as an offspring of orthodox and Neo-Freudian psycho-analysis. In 1959 Schneck³ published the first textbook with the medical specialties and hypnosis. Thus lately, hypnosis appears to be coming again into more use in the medical profession. This renewed interest in hypnosis can be observed throughout the world, as reports from all countries indicate.

Theories

In regard to the question of what hypnosis really is, there exist many theories: to enumerate only a few, Janet looked upon hypnosis as a form of dissociation where different emotional elements in a person could be dissociated and work more or less independently of each other. Freud considered hypnosis as similar to being in love, while Ortega y Gasset saw it related to falling in love. He pointed out as the most obvious factor in hypnosis the mechanism of attention. This mechanism is also involved in mysticism and in falling in love, and he therefore considers all three states as analogous. He views the hypnotic technique as consisting principally in the concentration of the attention upon one object. He compares different types of personality in regard to their capacity to be hypnotized and finds a maximum coincidence with the scale which we would form of these same types in order of their ability to fall in love. This is in his opinion the reason why a woman is a better hypnotic subject than a man. The Russians believe that hypnosis is due to a radiation of central nervous system inhibition

caused by reiteration and monotonous stimulation, thus representing a form of Pavlovian conditioning.

According to Pavlov's studies hypnosis represents an incomplete, partial sleep, varying in depth, but not including all parts of the brain, and affecting the involved areas in different degrees. Kusters saw in hypnosis a kind of sleep state with certain cerebral foci being activated by suggestion. Watkins feels that trance is a kind of transference. Ferenzi considers hypnosis psychoanalytically as a state of regression into a dependent child-like state. Meares sees hypnosis (similar to Schneck and Guzes) as a regressive atavistic phenomenon, a return to a more primitive form of mental functioning, in which suggestion plays a major role. The phylogenetically newer intellectual critical facilities become dulled so as to give the older suggestive influences more weight. But so far no hypothesis is comprehensive enough to account for all of the complex manifestations of hypnosis. "There is no known principle by which we can grasp this state as to what it really is. We can delineate it only by distinguishing it. It is not an understandable psychic change but a vital event of a peculiar kind which is linked with effective suggestion. It is a primary phenomenon of somatopsychic life , a human phenomenon and presupposes self-reflection and the adoption of an attitude to the self. Therefore, it is not possible with very young children. There is also no hypnosis of animals, contrary to reports. What is referred to as hypnosis in animals is really a reflex which is physiologically quite different and in nature essentially quite another matter from human hypnosis," declares Jaspers⁴. Svorad⁵ who carried out thousands of experiments on animals calls animal hypnosis "paroxysmal inhibition" and describes it as an inhibitory process in the central nervous system reacting to a supra-maximal stimulus. Geriatric patients are frequently resistant to hypnosis due to the loss of plasticity in their personality.

Hypnosis resembles sleep and is characteristically an alteration of consciousness. The changes in consciousness which can be seen in hypnosis, sleep, and certain hysterical pictures

appear in some way similar. The difference between sleep and hypnosis lies in the rapport with the hypnotist, in "the island of wakefulness in the otherwise sleeping psychic life."⁴ Hypnosis appears identical with hysterical states in regard to mechanism. However, it is different because in hypnosis the mechanism is brought into action by special conditions which are transitory, while the hysterical phenomenon is a more lasting characteristic of the psychological makeup of an individual.

There exists some similarity between hysteria and the capability to be hypnotized. Basically all human beings have this capacity but in different type and degree. The deepest hypnotic trance is reached most easily by those who tend to utilize spontaneous hysterical mechanisms and by children since children's psychic life is normally much closer to the hysterical psychic life.

Hypnosis is effective through the influence of suggestion through which all psychobiological functions can be modified. Suggestion is the most basic aspect of the hypnotic state and the primary reason for a physician to select this method of treatment is the patient's heightened degree of susceptibility to suggestion rendering susceptible many of those patients who would not be responsive to suggestions in the waking state. The degree of suggestibility in a particular patient is of greater importance than the depth of trance. In very suggestible patients one can produce phenomena like analgesia and hallucinations in the waking state which can be seen in most other individuals only in hypnosis.

Of course the importance of direct or indirect suggestions without hypnosis played always an important part in medical treatment even though doctor and patient might not always be aware of it. The power of suggestion is at work in a large number of pharmacological and other treatments especially in physio- and electrotherapy. The important fact is the patient's belief in the significance of what is done.

Hypnosis achieves its effect through realistic concrete images which powerfully dominate

feeling and mood. During hypnosis a particular kind of mental productivity develops. Pictures can be seen and memories relived. The patient reacts to the suggestion, e.g. metabolism rises because it is suggested that it is very cold. The autonomic nervous system takes its cue from the imagined experience regardless of the different reality with its real stimuli. One can raise body temperature, increase gastric juices or metabolism by direct suggestion. One can achieve it in hypnosis through a suggested situation which, if real, would have these effects. In hypnosis one can see how far psychological influences can produce physical symptoms. With most patients provided they are motivated and believe in the doctor's ability and trust him, one can at first suggest that they are becoming sleepy and tired, are tranquil and that they should concentrate on the words of the physician alone. The patient's attention is drawn to the words of the hypnotist and away from other stimuli. The patient's consciousness becomes narrow, he becomes more and more relaxed and he loses the volitional control over his motoractivity. Thus one can induce a state varying from mild sleepiness to the deepest trance with exclusive rapport with the hypnotist. Such a state provides a most suitable condition for the realization of further suggestions. Insensibility of the skin, feelings of immobility, specific sensations, hallucinations, etc., all can be evoked. Not only the therapeutic suggestions but also the sleeplike state per se is of therapeutic importance. (The Russians use therefore prolonged hypnotic sleep.) Therapeutic suggestions should practically be given not at the first hypnotic session but only later. In the beginning hypnotic session, it is advisable to suggest to the patient that each consecutive hypnosis's effect will be increased and problems, if any, will be better.

An important characteristic of hypnosis is the post-hypnotic suggestion, meaning that the hypnotized patient will carry out an order hours, days, or weeks after it was given under hypnosis; e.g. he might pay a visit, or at a certain time in a way which he himself cannot understand, he will experience an urge to do something and he will give in to this unless

some overwhelming inhibition rooted in his personality makes him resist. In regard to the popular misconception that a patient could be influenced so that he would execute acts in hypnosis which would be against his superego, one must say that such a fear is not justified. If the hypnotist would suggest things contrary to the patient's innermost being, the patient would awake from hypnosis. The individual remains himself even in the deepest trance in regards to his wishes and desires. Frequently, the patient will rationalize a motive which suits him and which he will then consider as a real cause for his action.

Methods

Induction of hypnosis can be done in several ways and each hypnotist to a certain degree develops his own specific way to accomplish it. There does not exist a universal prescription how to do hypnosis. It is possible to use mechanical aids for the inducement of hypnosis; however, this is very rarely done any more, and verbal suggestions are now used almost exclusively. Hypnosis demands, like every art (art in the Greek meaning of "Techné"), ability and skill. It is therefore necessary that the physician who utilizes hypnosis is adequately trained in hypnotic techniques. It is important not to start hypnotherapy before the etiological situation is clear and sufficiently analyzed and an understanding of the patient's personality structure and the dynamics involved is achieved. Medical hypnosis must be based on the patient's illness and his psychological makeup. Thus it is very desirable for the hypnotist to have a thorough understanding of psychodynamic principles. One must also keep in mind that in many cases hypnosis does not solve the underlying basic problems of the patient and additional treatment approaches are called for. The personality of the hypnotist is also of importance since the basis of successful induction of hypnosis is, of course, a good doctor-patient relationship. At first one should explain the nature of the procedure to the patient. This is especially important in view of the many misconceptions which are prevalent in our population in regard to hypnosis fostered by horror movies, television, newspaper articles, and pseudo-

science. If one refers to medical hypnosis, one often helps make the idea of hypnosis appear as less of a shock to the patient. For ethical reasons of course the patient must give his consent before hypnosis can be used. In inducing hypnosis, one must also take in account the patient's defenses against hypnosis which might have the form of inability to relax, negativism, and sleep. A resistant patient might even simulate hypnosis as a matter of defense but not really go into a trance.

Indications

Hypnosis is not a panacea. It has a limited scope, e.g. the removal of a symptom or a not too complicated syndrome. This may lead sometimes to the complete restoration of the patient's health or at least to a sufficient improvement so that the patient can again function in his environment. Hypnosis can play either a primary part in the overall therapy of a patient, or, if it is a subsidiary element within a treatment-program in combination with other treatment modalities, it offers opportunities for a better use of other therapeutic measures.

The main area in medicine where hypnosis can best be utilized are the common "nervous" organ complaints, e.g. feelings of uncomfortableness making the patient a hypochondriac, sensations in the heart area, some asthmatic complaints, disturbance in micturation, harmless complaints which render the patient anxious and afraid, feelings of inferiority and self-doubts, mild depressions, insomnia, headaches, provided they are not of organic origin, and other conditions which are more or less caused by emotional problems. In simpler cases, the method of hypnotic relaxation will be sufficient because the depth of hypnosis is not related to the success of the treatment. In addition, psychogenic overlays of many organic illnesses respond to hypnotherapy. The palliative effect of hypnotherapy facilitates the struggle of the organism against noxious factors; the emotional state of the patient can be improved, physical suffering and pain may be diminished or removed and sleep, appetite and the functions of the digestive tract can be renewed.

With the increasing understanding of the

psychosomatic background of many diseases, it is clear that hypnosis can be of use in internal medicine. In regard to psychosomatic illnesses and the indications for hypnosis, Meares⁷ says: "The greater the evidence of stress reaction and the greater the physical and mental tension of the patient, the clearer are the indications for suggestive therapy. We must always remember that, medically, the patient has nothing to lose and everything to gain by a trial of suggestive therapy." Of course adequate medication and medical management must continue, according to the findings in each case. Wolberg¹ enumerates symptoms that have responded to hypnosis. These include cases of hypertension, Raynaud's disease, coronary disorders, tachycardia, cerebral accidents, asthma, speech disorders, enuresis, impotence, chronic gastritis, dyspepsia, spastic colitis and ulcerative colitis.

In Neurological Conditions

In neurological conditions, hypnosis can be beneficial by lessening tension. The residual incoordination, muscle weakness and paresthesias are reduced in such diseases of the central nervous system as Tabes, Parkinson's disease, syringomyelia, muscular dystrophy, multiple sclerosis and the post-traumatic syndrome. Since peripheral chronaxie may be heightened and lowered by suggestion, malfunction may be improved in conditions, where reversible neuropathology exists as a Sydenham's chorea. Stein⁶ reports that in convulsive disorders hypnotherapy can reduce seizures with suggestions for displacement of tension. This raises the convulsive threshold and can draw off variable excesses from the emotional reservoirs of potential seizures.

In dermatological conditions, hypnosis can be of value, especially if the skin lesion is a response to psychological tensions and stress. It is very useful in the field of obstetrics and gynecology. Dysmenorrhea, amenorrhea and menorrhagia, as well as menopausal symptoms can be influenced by hypnosis. It can help to overcome hyperemesis gravidarum and can control the food intake during pregnancy. It will alleviate the discomfort of the contractions of the uterus during labor. Hypnotic conditioning and posthypnotic suggestions,

are both used to alleviate childbirth. "The wise use of hypnosis is the ideal method of anesthesia in obstetrics," says Meares⁷. Except here and in dentistry, where hypnosis is often the sole anesthetic agent in tooth extractions, hypnosis is not employed for anesthesia, however, it can be used as a valuable adjuvant to pharmacological anesthesia.

Hypnosis is very important in the field of psychiatry. Either in the form of "covering" hypnotherapy, with the emphasis on suggestion and support, or as an uncovering method, in the form of hypnoanalysis. In deep hypnotic trance the patient has ready access to his unconscious conflicts, memories and to disturbances of his body image, and he often can talk about problems which he is unable to discuss in the waking state. Hypnosis is utilized mainly for the psychoneurotic disorders, especially the hysterical conversion reactions, sleep disorders, anxiety reactions and certain cases of depression. Many cases of psychosexual problems, such as impotence and frigidity also respond favourably to hypnosis. In alcoholism and drug addictions hypnosis can be of help, although there is not yet a generally applicable cure for these disorders. In these cases it is utilized together with more conventional psychiatric methods as a way to help the patient improve his behaviour pattern and to clarify the patient's emotional attitude in order to effect a better adjustment of the personality. In serious mental illnesses with severe anxiety attacks, decompensation and restlessness, the relaxing effect of hypnosis gives relief, usually in combination with drug-therapy and other forms of psychotherapy.

Contraindications

Contraindications to hypnosis are few. However psychotic patients, especially with paranoid symptoms might build their delusional system around the procedure of hypnosis or the hypnotist and could become worse. There is also the possibility that a latent psychotic patient may develop a fullblown psychosis under the impact of hypnosis. However, with good knowledge of psychiatric principles this danger can be avoided. Obsessions and compulsions are frequently rather resistive to hypnotic treatment. Monosymptomatic cases re-

spond usually better than cases with a history of successive symptomatic changes. They might tend to replace another symptom for the one which disappeared under hypnotic suggestions. Diethelm⁸ mentions that the "occasional occurrence in hypnosis of spontaneous hallucinations or convulsive attacks is no contraindication if the patient remains in suggestive rapport with the physician. The development of fullfledged delirious reactions demands a change of treatment. Persons who show some tendency to somnambulistic twilight states should not be hypnotised, as their auto-suggestibility will lead to spontaneous use of hypnotic experience. Much has been written about the dangers of hypnosis. They do not exist in medical treatment, if one carefully considers indications and contraindications and uses verbal suggestions exclusively.

Hypnosis in the hands of lay people is dangerous, as is any other medical procedure."

It is obvious from the foregoing, that hypnosis should not be considered as a generally preferable procedure, but rather as a useful technique in addition to other treatment methods. In some cases it may be the treatment of choice. There still exist many questions about hypnosis, that call for research and discoveries, but hypnosis is losing its magic aspects as it becomes more integrated into the general body of medical-psychiatric theory and practice. The positive value of hypnotherapy in medical practice is proven in many cases and even if we consider its limitations, it is a useful treatment-tool in medicine.

References will be supplied by the Journal on request.

CLINICAL NOTICES AND SCIENTIFIC MEETINGS

The Eighth Annual AMA—American School Health Association Pre-convention Session on School Health will be held June 26, 1966 in conjunction with the AMA Convention in Chicago. All physicians and educators interested in school health programs are invited.

ELEVEN SCHOLARSHIPS

Eleven four-year medical school scholarships will be made available each year under a new program financed by the New York Life Insurance Company. Beginning in the Fall of 1966, each participating school will select qualified students for enrollment in the coming class. Medical schools of the following universities are participating: Alberta, Canada; Arkansas, California, Indiana, Kentucky, Laval, Canada; Nebraska, New York State, Utah, Vermont and West Virginia.

UTILIZATION OF FACILITIES FOR PATIENT CARE

A REPORT OF THE COMMITTEE

In January of this year, the Council of the Medical Society of Delaware, concerned with the availability of hospital beds under present circumstances, and concerned, too, with anticipated pressures on the capacity of hospitals and extended care beds, asked the Committee on Utilization of Facilities to consider how to make the best possible use of existing facilities for the sick. The Committee, consisting of Dr. William D. Shellenberger, Chairman, Dr. Pierre L. LeRoy, Dr. Charles S. Riegel, and Mr. R.

R. Griffith, Consultant, presented the following report in April.

The Council was well aware, as is the Committee, that medical care is too complex to be governed by simple rules. There are many instances in which the recommendations of the report will yield to individual circumstances. However, the Committee believes that these recommendations, which are the product of a great deal of thought by the Committee and others, should be widely circulated to stimulate thought on a question of high professional and public importance.

To the President and the Council of the Medical Society of Delaware:

This committee has been asked to explore ways and means of using existing facilities for patient care more effectively, a charge which has been dictated by present difficulties in Delaware in securing beds for patients whose need for hospitalization is genuine, if not of an emergency nature.

In this report, we are concentrating upon recommendations which can be implemented quickly, or relatively so. We have not considered new construction nor the possibilities for diverting present facilities to other uses. This might well be the subject of a later report if the Council wishes it.

The committee foresees a need for more hospital beds in Delaware within the next decade, but is convinced that the effective capacity of beds now in existence can be substantially increased by changes in present patterns of care, with no sacrifice in standards of quality. We feel there is need for a better matching of resources to needs, and, in some cases, for a revision of traditional methods in favor of more efficient methods.

We feel that the basis of quality remains, as always, a mutual responsibility between physician and patient. Our recommendations are not designed to undermine this principle, but to distribute responsibility to improve the efficiency of care. This may, in fact, improve quality by making better use of the professional time and skills available. There are circumstances in which changes are not desirable. There are many other circumstances in which they will be in the best interests of all concerned.

Before proceeding with specific recommendations, we would like to state two broad principles which we think are inherent in all of our recommendations. The first is that the resources of the community should be viewed as a whole, and not as a series of casually related services. The second is that given a relatively inflexible number of personnel, it is imperative to use them most efficiently. We believe that medical care is achieving a level of sophistication at which it is both possible and necessary to strive for the best possible use of personnel, to achieve economy in term of skill and money.

Recommendation I

The home-care programs should be expanded and better use made of them.

A. Home-care programs are much under-utilized. This is not a plea for home-care for all patients but a suggestion that it be used more frequently when proper environment makes it to the advantage of the patient. There should be a conscious program to educate physicians and patients about these programs in terms of their effect on the hospitals' and the medical staffs' ability to care for an increased number of patients. This duty should fall not only upon the home-care program itself, but upon the utilization committees and the State and County Medical Societies, who are in a key position to influence the attending physician.

B. A considerable proportion of the patients referred to home-care programs are found unsuitable because the family is either unable or unwilling to provide the services which are necessary to support home-care. Home-making services are presently provided by several agencies, including the home-care program itself, the Cancer Society, and Family Service. We recommend that responsibility for this function be concentrated with one group, in order to make optimum use of the money and personnel available.

C. Too often, when the patient does not have a suitable home, and cannot afford private custodial care, the hospital must keep the patient in a bed that could otherwise be freed. In such cases, custodial care is obviously a necessary part of medical care. We recommend that local and state governments provide such care in their own institutions or be prepared to assume the necessary charges in private nursing homes when the institutions cannot accommodate the patients.

D. The present staffing arrangement of the home-care program calls for a small number of physicians to care for the program's patients, wherever they may be located. This is inefficient, and imposes a substantial burden on the program's physicians. We recommend that the state be zoned and that home-care patients residing in specific zones be referred to cooperating physicians within them.

The physician should be paid reasonable and customary charges for his services. Assignments should be made on a rotating basis to physicians in the appropriate zone who have shown a willingness to participate.

Recommendation II

Existing nursing facilities outside general hospitals can and should be better utilized.

For practical purposes, we have divided this recommendation into two parts for discussion. The first involves state-operated facilities, the second proprietary facilities.

Part 1

A. The admission procedures of the various state facilities should be clarified. The function of custodial care should be distinguished from the function of caring for the sick, although it would be desirable to maintain both within a single institution, to a reasonable extent. Arrangements should be made to coordinate custodial care with out-patient medical care, such as is given by the home-care program.

B. If state-operated facilities which are suitable for the sick are not available because they are filled by reasonably healthy individuals, the state should consider payment for the care of the healthy in private facilities, thereby freeing hospital facilities for those who need them, and making the economies which would follow.

C. We feel that the state would benefit from consolidation under one management of facilities which care for patients who are sick but who are not in need of psychiatric or psychiatrically-oriented care. We refer specifically to the Bissell Hospital, the Home and Hospital for the Chronically Ill and to at least some parts of the Governor Bacon Health Center, although other facilities might properly be included. We feel that this would (1) facilitate the transfer of patients to the most appropriate facility, (2) permit specialization by the facilities to a degree which does not now exist, (3) result in more coordination of plans for expansion, (4) better match the needs of patients to the services of the state, and (5) importantly, it would permit con-

sideration of the needs of most of the facilities for the sick poor in one budget.

Part 2

Secondly, the private nursing facilities should be considered.

The proprietary nursing home beds of the state are not full. This is true of both skilled and custodial beds, of all qualities. While the number of accredited beds appears adequate for the state's needs, the geographic distribution is not good, in that all nationally accredited beds are in the Wilmington area, so far as we know. We feel that greatly increased use could be made of these beds for patients not in need of general hospital care, and that appropriate transfer agreements should be expedited. This necessarily implies financing for proprietary nursing home care for indigent patients, which is not now available. Government and perhaps the hospital itself should fill this need. It is entirely possible that one side effect of a program of this kind would be motivation of nursing homes in Kent County and in Sussex County to acquire accreditation.

A. Care of the long-term patient who does not need general hospital care is the most obvious and traditional use of the nursing home. Less widely understood is the fact that the patient's inability to pay for this care will preclude his transfer. Medicare will not wholly solve this problem, partly because all such patients are not over age 65, and partly because lengths of stay for active medical treatment are frequently longer than the 20-day period without co-insurance, and not infrequently longer than the total 100-day benefit period. We recommend that the State of Delaware arrange for financial coverage of the needs of its citizens for nursing home beds, to the extent that they themselves cannot pay and the state institutions cannot provide care.

B. Nursing homes should be used in conjunction with the home-care program when the patient's home is unsuitable for his care. We feel that it should be entirely practical to arrange for the use of proprietary beds for this purpose, on the basis of cost or at a modest profit. This cost should be included

as a reimbursable item in the state's Welfare payment programs, and in prepayment programs.

C. We recommend that the medical staffs of the hospitals, through appropriate committees, review the circumstances under which selected patients, seriously ill but not requiring general hospital care, could be transferred to nursing homes for adequate care. The Committee believes that a number of patients suffering malignancies, fractures, cerebral-vascular problems and so forth can be cared for appropriately in skilled nursing homes, and that such arrangements would be helpful not only to the hospitals but to the patients and their families, in view of the substantially lowered cost.

D. Any discussion of greater use of nursing home facilities requires comment on the present coverage of those facilities by physicians. The Committee realizes that it is difficult to draw hard and fast rules. However, we believe that in general the process of one physician's moving from nursing home to nursing home to visit several patients is wasteful of professional time and energy, and essentially impossible if nursing homes are to bear a greater portion of the present hospital case load. In the interest of efficiency, we recommend that each skilled nursing home develop a "courtesy staff" of physicians who are located near it, and who are willing to accept referred patients within that home. We recommend to the medical profession at large that, when circumstances seem suitable, patients be referred on the basis of geography as well as on the basis of specialty. A patient might be referred to a physician whose availability for more frequent visits would contribute to a higher level of care, with better use of manpower and money. This recommendation is similar, in principle, to the recommendation for "zoning" of home care.

Recommendation III

The Committee feels that a good start has been made on the progressive care concept in some hospitals in Delaware, and that this should be extended and adopted wherever possible.

Progressive care and its modifications are basically the arrangement of patients by their nursing care requirements. The concept has relatively little significance so far as physician's care is concerned. Neither will it increase the total capacity of the hospitals by freeing beds, except in the application mentioned below. It can contribute substantially both to the quality of care and to the efficient use of personnel. We want to re-emphasize in this connection that for optimum use of graduated facilities, it is necessary to consider all hospitals in the community as one complex, and to shift patients as the best utilization demands.

Efforts must be made to have the patient and his family realize that the term "acute hospital" is not properly descriptive. They must understand that hospital costs bear little relation to accommodations, but are governed by the use of personnel.

1. More pre-admission diagnostic work would be useful in freeing beds. This will create problems for prepayment plans in the equitable payment for out-patient work, which will require further study and solution.

Recommendation IV

There should be a continuing study of the effects of utilization committees to determine optimum methods of review.

The Committee does not believe that optimum review methods have been developed yet. Under present circumstances, the majority of hospital admissions are not reviewed while the cases are active, since the usual review interval exceeds the average length of stay. The staffing of review committees by non-medical personnel would permit review at much more frequent intervals with findings subject to physician review. The Committee wishes to emphasize that it has no reason to believe that the average length of stay is not optimal, but that further work needs to be done to define optimal length of stay, and to provide standards for judging it.

We also want to point out that the utilization committees will need the whole-hearted support of the medical staffs in their efforts to

control excess bed utilization. This is for the benefit of the patient, the hospital, and the Staff itself.

Recommendation V

Complete diagnostic services for "routine" inpatients should be available on an expanded schedule. This would decrease the average length of stay and increase the quality of medical care.

It is the Committee's observation that adequate laboratory, x-ray and anesthesia services are available for emergency procedures. Our concern here is for the patient whose condition is controlled well enough to pose no immediate threat to his life, but who requires laboratory or radiological procedures, sometimes requiring anesthesia, before definitive therapy can be started. Such patients occasionally cannot be accommodated by the weekend or holiday staffs of the appropriate department, and their non-emergency nature leads to delay in establishing the proper course of treatment, which is, in turn, wasteful of hospital capacity, time and money.

1. Adequate staff should be available in each department providing diagnostic services to insure that tests needed for inpatients are performed and reported without unnecessary delay.

2. Priorities should be established to assure that diagnostic services for non-emergency inpatients take precedence over similar services for non-emergency outpatients. We recognize the difficulties imposed upon the services by outpatient loads, but we feel that outpatient demands must not be allowed to impede the delivery of test results to expedite the treatment and discharge of inpatients.

Recommendation VI

The Committee believes that there is an urgent need for a central planning agency for health facilities and services in Delaware. This agency should represent public and private endeavor, and should participate in the planning for both.

The planning agency should consider the geographic distribution of facilities, the neces-

sity and possibilities for expansion, and the extent to which present administration and basic facilities could support additional building.

It must also consider limiting factors including the adequacy of facilities, on the ability of present facilities to support more beds, and the limitations of safety and travel on certain types of patients.

The agency should also have some voice in the relationship between health facilities and facilities for other persons that the state helps. It should evaluate the effect of vigorous rehabilitation programs on present case loads. It should consider the effect upon facilities of legislation such as Title XIX of P.L. 89-97.

It should also weigh the necessity for a state-supported chronic disease hospital. The Committee has misgivings, in general, about

the chronic disease hospital as an isolated unit, but feels that this may prove to be a desirable addition to the resources of the state. We feel that the development of a planning agency would lead to more orderly and controlled development of facilities, and might properly participate in the establishment of new facilities.

The Committee is grateful to representatives of the following organizations, who were consulted and who were helpful in development of this report. Community Services Council; Delaware Nurses' Association; Delaware Nursing Home Association; Group Hospital Service; Home of Merciful Rest; Ingleside; Medical Society of Delaware; Nursing School of Wilmington; Department of Practical Nurse Education; Visiting Nurse Association; Wilmington Medical Center; and the following Departments of the State of Delaware: Office of the Governor; Board of Health; Department of Mental Health; Department of Public Welfare; Home and Hospital for the Chronically Ill.

MATERIAL AND SERVICES AVAILABLE

- The new pamphlet "Peptic Ulcer," now available from the PHS, notes that each day an estimated 4000 more persons develop an ulcer; that each year about 10,000 individuals in the U.S.A. die of complications of peptic ulcer. Besides presenting general background information, the pamphlet outlines the causes, symptoms, and techniques for diagnosis and current methods of treatment and the more serious complications of ulcer. Single copies of this publication No. 280 are available by writing, P.H.S., Dept. H.E.W., Washington, D.C. 20201, or may be purchased for 15c per copy from the Government Printing Office, Washington, D.C. 20402.

- An *Isotopes Information Center* has been opened at the AEC's Oak Ridge National Laboratory to collect, evaluate and disseminate world-wide information on production of radioisotopes and their uses in industry and research. Requests for information should be directed to Dr. Philip S. Baker, Director, Isotopes Information Center, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tenn. 37830.

- An educational campaign, launched by the National Tuberculosis Association through ads in national magazines, will inform people that chronic coughs and shortness of breath may be early symptoms of the disabling chronic obstructive airway disease and *not* normal concomitants of middle age. The principal advice in the ad will be *See Your Doctor*. We have been asked to give advance notice of this campaign to members whose patients might read these ads and seek advice. Consult your local TB Association for further information. Sample copies of the ads and a copy of the booklet will be sent on request.

Reflections of a Country Doctor

PART II

ROBERT B. HOPKINS, M.D.

The Lean Years

The young Doctor's patients are few and far between and are usually of that class whose moral and financial standing are below par—who are in debt to some other physician and call in your services to elude facing one whom they justly and honestly owe. You are a jolly good fellow, well met. They do not like *Doctor So and So*, he is peculiar, and more, his medicine never did them any good—they could have recovered without his services and besides, his charges are so high. If the truth was known they never paid *Doctor So and So* a dollar for any services. You will eventually learn to your heart's sorrow and financial loss that you are a peculiar fellow—your medicine never did them any good and they could have done without your services, and more, your charges are so high. Pity they could not have told you so before. It would have saved them great anxiety and you great humiliation. However, you have gained experience in the treatment of disease—have learned something practicable of human nature and if you have not received any remuneration, your time and money are not a total loss. This may seem poor consolation, yet in a thousand cases it is the only pay the Country Doctor receives. Gradually your practice may increase—your reputation spreads far and wide and you are spoken of by the laity as the “young Doctor with a large practice.” When we hear this remark made of a young practitioner we smile (inwardly) as our thoughts lead us back to the first years of our medical experience.

There is a class of people in every community who think that if a physician takes an occasional glass or is even addicted to the

use of alcoholic stimulants, that it is an indication of superior intelligence. Some old lady whom you may chance to meet in your daily visits will inform you that *Doctor So and So* drank to excess yet was considered a very “smart” man, in fact, he was never known to be without the drug. Some kind neighbor who chances to be present—quietly informs you that if you expect to meet with any great success in this neighborhood as a physician, he advises you to equip yourself in that direction also. “Why *Doctor So and So*,” he continues, “Came to see me one night and was so drunk that he crawled from his carriage to the house, crawled to the bed on which I lay, gave me some medicine and in fifteen minutes I felt like another man.” (Lucky for you, my man, that in fifteen minutes you were not dead.) “He knew his business that doctor did,” continued my friend. “Why I had rather had him come to see me drunk than all the other physicians in the town sober.” And he clinched his argument by making a grand climax and added, “All smart men get drunk”. Surely this does not say much for the doctor who keeps sober, and casts rather an unfavorable reflection upon the profession. It is an extremely bad practice if not a dangerous one for a physician to be addicted to the use of alcoholic drinks. It is dangerous to himself and doubly so to his patients. Life is too dear to be trifled with. The time has arrived when the secular world has no use for the drunkard and much less for an intoxicated physician. The mercantile man would not employ an inebriate to transact his business—of how much more importance then is it that the man who administers to the alleviation of suffering—who is dealing with the most intricate mechanism should at all times and under all circumstances possess a clear untrammelled in-

Dr. Hopkins was President of the Medical Society of Delaware, 1901-02.

tellect. The physician who is intemperate in his habits rears a barrier against his own progress and, paradoxical as it may sound, is an enemy to himself (and a disgrace to the profession).

Transportation

A good horse is the Country Doctor's best friend in the quadruped family. We fail to understand how a person could be so destitute of feeling as to treat this animal with anything less than the greatest consideration and care. How gentle, how kind, how affectionate a good horse. No other animal, unless it be the domestic dog, is more attached to his master. He knows your voice, your foot steps, and readily lets you know it is meal time by his neigh if you do not appear promptly on time.

How many weary hours has he stood waiting for you? How many long and tedious miles through rain and snow he has safely drawn you, yet with a persistence perseverance and endurance that is remarkable. Speak kindly to him—let him understand you are his friend as well as master. Be firm yet gentle. Gain his confidence by quickly recognizing his wants and needs. He knows when you speak harshly. I heard a man say not long ago that his horse knew when he swore. I hope physicians' horses never hear their masters use profane language. Some people think a young horse must be "broke." What a great mistake. They should be trained as you train a child. A physician owned a large young horse. He was four years old before he wore a bridle. He was gentle and kind in the field. At your call he would come and fondle with you. Not having the time, the doctor employed an experienced hand in the town to "break him in." The first time he was geared to a wagon there were about fifty spectators present consisting of men and boys. The horse was excited and the consequence was that when they succeeded in getting the vehicle attached—he demolished the whole rig in a few minutes. The spectators ran in all directions to places of safety. When finally they succeeded in getting the horse quiet the only remnants of the harness were the collar and bridle and the vehicle was irretrievably beyond repair. The

physician now took him in hand himself. He petted, fondled and cared for him. He daily placed the harness gently on his back and led him around. He was a ready and willing pupil and in a few weeks was well under command, yet at times a little fractious. Not long after, he began to drive him. One morning, while riding through town with a friend as company, the horse became frightened and in an instant was in a run. His friend grabbed one rein while he retained the other. They pulled their level best but seemed to make no more impression on the horse than if they had been pulling against one of the Rocky Mountains. The doctor tried to animate his friend to super-human efforts by saying, "Pull for your life—if we do not succeed in stopping this horse we are both dead men." He could plainly see now in his mind's eye that poor fellow with both feet propped against the deck, his face set in deep earnest while every muscle in his well developed body was at its utmost exertion. The horse stopped probably of his own accord. The doctor's friend soon eliminated himself and no amount of persuasion could induce him to get back into the carriage. He was forced, therefore, to drive the horse alone. The next day the parties met on the street. He asked the doctor if he had recovered from the excitement of yesterday and added, "Did you know that rein I was pulling on did not feel any larger to me than a shoe string?" Not long after this episode an old German friend was riding with the doctor when the horse took fright at a wagon and before they could get him under control he ran into the alley, capsized the carriage throwing the occupants out—the German landing against a picket fence which he nearly demolished, while the doctor brought up under the carriage, the hind axle dragging over his leg and taking the skin off from the knee down. The carriage top was completely demolished and when they recovered sufficiently to look after the horse found him with the remnants of the carriage completely jammed in the stable door. With some difficulty they succeeded in getting him extricated. It was a long time after this accident that any one would ride with the doctor. While company would have been very acceptable oftentimes, he could not insist on any one

risking his life unless he had been able to take out an insurance policy. This not being practicable he ventured alone and by being extremely careful met with no serious accident.

The Doctor's Medicine Case

The physician's medicine case is usually an epitomized drugstore. It is a never failing source of curiosity to the juvenile and oftentimes to older people. Such a box would make an elegant toy the young boy and girl thinks, while to the older one it is a perplexity that you can remember the name and dose of each separate drug — while the older people are confounded to know how you can treat such a variety of diseases with so small a number of remedies.

The physician's medicine case is his armamentarium. Some present a very formidable appearance from the variety of their contents, while others are rather conspicuous for their absence. Few remedies, when properly applied (like tools in the hands of a good mechanic) accomplish more good than a multitude of remedies in the hands of a novice. Too much medication is dangerous. Better learn to use a few remedies with accuracy and precision than be confounded with a multitude of medicines of which you practically know nothing. The ignorant practitioner fortifies himself behind a host of drugs of which he knows little and endeavors to hurl them against diseases of which he knows less.

It is extremely hazardous to carry in a buggy case such remedies as arsenic, strychnine and hydrocyanic acid. They are remedies which, when judiciously used, are potent for good, but, when inadvertently administered are powerful factors for harm and may, through carelessness or mistake, cause instant death. No careful physician will trust himself to use them only in exceptional cases and under his immediate care and instructions.

The amount of medicines swallowed annually by the people in the United States is appalling. The number of patent medicine factories and their wealth testify to this fact. Why the mortality of the country is not woe-fully increased I am at a loss to know. A

physician once related this incident. He was called in late in a case to see a very sick child. He prepared the medicine and gave it to the father with instructions how it should be administered. In a short while the father returned bringing the medicine with him. Handing it to the Doctor he said, "Here is your medicine — the child died without it." People will die without medicine yet it is a mystery how they live while taking so much. Probably one redeeming quality of patent medicines is they seldom contain anything that is dangerous and are not costly except to the person who buys them. If the money spent annually for secret nostrums was paid into the hands of the legitimate physician, we think the country would be as well protected and are sure the Country Doctor would fare financially better than he now does.

Use as few remedies as possible — give them with an object in view — and further give them time to act. Do not expect after your patient has swallowed a dose that in a few minutes you will see a great transformation. Nature is kind if you will gently assist her, but, a multitude of remedies will interfere with nature's laws and imperil the life of your patient.

A child, aged 14, was suffering from typhoid fever. The attending physician wished a consultation. Inquiring on his visits what medication he was employing he gave the consulting physician the following reply. She is taking ten grains of quinine morning, noon and night; in addition, she is taking dilute nitro-nuniat acid drops, five every three hours. In the afternoon when the fever begins to rise I give her ten grains of acetanalid, and in two hours, if it is not reduced, I administer five grains additional. For the diarrhoea I am giving her tincture opii drops, five twice a day and, in addition to that as she is somewhat tympanetic, I have her take five drops of the oil of turpentine. She seemed yesterday somewhat prostrated so in addition to what she is already taking, I am giving her ten drops of aromatic ammonia in a little water with sugar every two hours. To have kept an accurate account of the time and administration of the

remedies would have taxed the brain of an experienced bookkeeper. In conjunction with this he required the nurse to take the temperature every three hours and keep a record of same. The consulting doctor was not at all surprised to find the patient prostrated. The quinine had produced such an effect that it was almost impossible to make her hear. Her rest was frequently interrupted by the repeated swallowing of remedies. The nurse was exhausted and the physician himself was down-hearted to think his patient showed little signs of improvement.

The doctor was conscientious and was doing all in his power to restore his little patient to health, but his trouble was, he was endeavoring to do too much. There are times when heroic doses may be given but the cases are exceptional rather than the rule:

*Be gentle, then; though Art's inspiring rules
Give you the handling of her sharpest tools,
Use them not rashly—sickness is enough,
Be always "ready"—but be never "rough".
Of all the ills that suffering man endures,
The largest fraction liberal Nature cures;
Of those remaining 'tis the smallest part
Yields to the efforts of judicious Art.
But simple kindness—kneeling by the bed
To shift the pillow for the sick man's head.
To give the draught that cools the lips that burn,
To fan the brow, the weary frame to turn—
Kindness untutored by our grave M.D.'s,
But Nature's graduate, whom she schools to
please—
Wins back more sufferers with her voice and
smile
Than all the trumpery in the druggists' pile.*

Anonymous

The day is lowering: it is one of those cold damp disagreeable days in the early fall. The rain, at intervals, has poured in torrents; the wind blows in fitful gusts and scatters the dead leaves from their branches in a thousand directions. It is a very bad day to be out of doors, but, you have a patient in the country who is expecting you. You promised him you would be there today; it would not do to disappoint and further he needs your services. With a great deal of reluctance (between the rain showers) you equip yourself and venture out. The ride is not so disagreeable as you imagined it to be. The wind is in your back

and the rain falls harmlessly on your carriage top and gum apron. But on your return, circumstances change. You are now facing the wind and the rain drives direct in your face. You crouch and endeavor to protect yourself behind your blanket, yet the rain does not abate in its down pour or the wind in its fury. You find yourself gradually becoming damp—the only dry spot you possess is immediately beneath where you sit and the elements are fast encroaching. Pools of water stand in the tufts of your carriage cushion—finally, you are completely drenched. You arrive home in a dampened condition of both body and mind. You exchange your attire for a dry one, congratulating yourself that the day's work—is done. You have just eaten your supper and are sitting by the fire enjoying your evening cigar. A sound of hurried steps fall heavily upon your ear. Your heart increases its beat as suddenly, without knocking, a messenger dripping from head to foot appears like an apparition excitedly informing you that Mr. G. wants you at his house as soon as possible as his wife is very sick, in fact it is doubtful whether she will live until you arrive. There is no time to be lost in inquiry with the messenger so you proceed at once and are off. The night is very dark, you barely discern your way through the driving rain. The road is long and dreary. It leads a serpentine route through a dark and dismal swamp. You urge your horse and can feel his warm breath now and again strike against your face. You have no thought of your own safety until your horse comes to a sudden halt. What now, you ask? Recovering yourself you speak to him kindly and urge him forward—he refuses to move. Possibly "a highwayman" flashes in your mind, if so, I am at his mercy, I have no weapons. Your horse snuffs the air and starts backward. You remember there is a deep ditch on either side. Realizing the danger, you suddenly leap from your carriage, seize your horse by the bridle rein—reaching in your pocket with the other hand and withdrawing a pen knife with a blade barely an inch long you resolve to make a desperate resistance. You stand there a few minutes in dread expectation and no high-

wayman approaching and fast becoming wet from the driving rain you resolve to investigate. Striking a match you see by its quiet glare only a few feet in front a large tree which has fallen across the road. It is impossible to reach the patient's home by this road, so you are compelled to retract and take another and circuitous route. You see across the field as you finally approach the little house, a dim light at the window. You expect, on your arrival, to have someone meet you at the door in expectation of your visit, but, no one makes an appearance. You alight humbly and rap at the door — no response, you rap again with more energy than before — still no reply. You venture to look in at the window and see two forms laying on the bed wrapped in peaceful slumber. You do not knock with your hand now, but, with two or three vigorous kicks that makes the sash in the window rattle. You are answered by a gruff voice within with the inquiry, "Whose there?"

Surgery

The surgical operation in the country is not carried out with such a display as is usually seen in our large city hospitals. There are no white attired dexterous assistants and handy nurses standing ready by. No, there is none of the grandeur of high ceiled rooms of the amphitheatre with its spectators as an inspiration. No, the surgical operation in the country is always devoid of these prerequisites and is usually calm and deliberate. No trained assistant stands ready by your side — you must stand alone. The operation today is the removal of a carcinoma of the breast. The patient is an old colored lady. There is no possibility of remuneration in the case — it is a charity patient. She is anxious to have the operation performed — it will save her hours of suffering and may prolong her life. There is a large foul smelling cancer on her left breast; for sanitary reasons alone the operation would be justifiable. You call in the aid of your fellow practitioner and, preparing yourselves, you visit your patient. She lives in a filthy hovel. The sanitary conditions and surroundings are far from what you desire, yet it is the best the conditions will afford. You prepare for the operation. A small

table, a few chairs, a rickety bed compose a larger part of the furniture. Several neighbors who, hearing you were to be there today, upon your arrival suddenly absent themselves. You request one or two to remain, but, they are faint-hearted and beg to be excused. Your fellow practitioner and yourself are the actors and only spectators. You soon have your patient under the influence of the anesthetic and the operation begins. The operation must not be prolonged as the patient takes ether badly. You cannot take time to tie the arteries you sever in succession, as you have no assistant, but remove the mass in toto. After you have amputated the tumor your fellow doctor assists in ligating. The blood spurts from several arteries in as many different directions and finally, as you secure the last ligature, your friend and yourself are bespattered with blood. You soon close the large wound made, place in drainage tube using all care as far as antiseptics are applicable in the case and trust to Providence for a speedy recovery. She soon emerges from the influence of the anesthetic. The kind neighbors, who absented themselves, return and, peering around the corner of the house, inquire if the operation is over. The woman makes a good recovery, so you congratulate yourself on the success of your first major operation.

A young man has been thrown from the wagon of a run-away team. The messenger informs you to go quickly as they think he is dying. You soon arrive at his house. The neighbors have succeeded in carrying him into the house and have lain him on the floor. He is besmirched with mud and blood and is suffering intense agony. He beseeches you, in imploring tones, to render him assistance. Upon examination you find he is suffering from a compound fracture of the middle third of the fore leg. The bone is protruding and the bleeding is profuse. Your first thought here, an amputation must be performed. But this is a young man, you must save the leg if possible. You ligate the bleeding artery, bring the broken bones into apposition and apply your dressing. The patient has recovered from the shock and says he feels better. You

(Continued on Page 157)



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



DEPARTMENT OF PUBLIC WELFARE PROGRAMS

The medical programs of Delaware's Department of Public Welfare provide: Pharmaceutical services to those persons 65 years of age and over who are eligible for Old Age Assistance; Medical Assistance for the Aged; persons 65 years of age and over who are able to provide for their daily needs but not their medical needs and those children included in the Child Welfare Services division who have been placed by the court in the custody of the Department of Public Welfare.

The Department of Public Welfare provides specific prescription forms which simplify and facilitate prescription service with the least amount of difficulty. To preserve the time tested methods of providing health services in our community the State initiated the vendor payment system whereby persons who normally provide the health services to the community also provide their services to the indigent, and are reimbursed via State funds.

There are certain guidelines which have been adopted by the individual disciplines and the State which should be kept in mind if each practitioner, whether it be the physician or pharmacist, is to provide prompt and adequate service.

1. All prescriptions must be written on official state blanks.
2. All medications prescribed must carry the "Caution legend" (*Caution: Federal law prohibits dispensing without a prescription*).
3. The original form must be completed from the physician's office with his signature and indicates renewal if so desired.

4. Renewal according to dosage requirements will be accomplished by the pharmacist for a period of six months after original date.
5. Prescriptions are void if not dispensed after seven days from date written.
6. Since the State reimburses the pharmacist on a Fee for Service basis, it be best to ascertain the requirements of the patient over a period of time thereby providing the most economical use of the money available for the program.

(The Fee for Service plan under which the pharmacy is reimbursed is based on the actual cost of dispensing a prescription and provides no profit for the pharmacist participating in the program.)

The overall picture of pharmaceutical services to the indigent included in these programs has been commendable. Each profession is willing and able to provide this important community health service. However, there have been some examples of physicians placing the full burden of these services on the shoulders of the pharmacist: such as telephoning prescriptions without proper cover of prescriptions written on the official form.

If we are to provide this service to the indigent, each person representing the health disciplines must cooperate to the fullest extent. These programs will expand greatly over the next few years and we should alert the Department of Public Welfare to the fact that medicine and pharmacy are ready to function as a united team in providing these services.



Delaware Academy of General Practice

THE EYE SYMPTOMS AND SIGNS IN MULTIPLE SCLEROSIS

Multiple sclerosis is a complex neurological disease whose onset may be characterized by acute ophthalmological symptoms as diplopia, blurred vision, scotomata, or blindness. These may clear up in a short time with or without therapy. However, in many patients eye difficulties persist.

Dr. David Schafer, ophthalmologist, was asked to outline the ocular findings in multiple sclerosis for the benefit of the general practitioner who usually sees these cases during the inception of the disease.

Nystagmus—Acquired pendular nystagmus or sometimes called fixation nystagmus is characterized by its pendular form and is accompanied by oscillopia. It is said to be almost pathognomonic of MS and related diseases, though it is rare.

Gaze nystagmus, whether symmetrical or asymmetrical, is the most common type of nystagmus in MS. It is horizontal without rotary components and is associated with up nystagmus in upward gaze. It indicates any focus *within* the pons afflicting the medical longitudinal fasciculus.

Vestibular nystagmus is rare and implies a focus in the vestibular pathways or in the collicular plate.

All types considered, nystagmus occurs in about 65% of MS patients and is the most frequent ocular finding.

Pallor of discs—a frequent finding seen in 15% to 30% of cases which is more frequent than expected by chance or coincidence though pallor is often seen in normals. Pallor often occurs with no visual defects.

Optic neuritis—A relatively frequent finding though the etiology is often obscure at the time of occurrence and the diagnosis may be made years later. Perhaps 5% of MS patients get optic neuritis.

Third and sixth nerve palsies—Occur separately in approximately 10% to 15% of cases. Fourth nerve palsy is never seen in MS or almost never. Third nerve palsy is usually partial though it may be complete. Function is usually restored. MS is the second most frequent cause of palsy.

Field Defects—Usually seen with optic neuritis and in central scotoma. MS is the most frequent cause of optic neuritis. The late lesions may give any form of field defect but defects other than central scotomata are rare.

Pupil defects—Rigidity, sluggishness and anisocoria are relatively frequent, others are rare. All signs considered pupil defects occur in 15% to 20% of MS patients.

Sheathing of retinal veins—This is considered to be a diagnostic sign when it occurs without hemorrhages or exudates, seen in other conditions that give sheathing. It is said to occur in 5% to 10% of the cases, it is transient in nature and occurs in peripheral veins.

Defective upward gaze, convergence defects, diminished corneal reflexes, jerky eye movements and uveitis are all very rare occurrences.

In the first 200 multiple sclerosis patients studied in Dr. George J. Boines' series, the initiating symptom in 88, or 44%, was referable to the eyes. These were one or more of the symptoms mentioned below in the order of greatest occurrence: Diplopia, Blurring, Blindness, Scotomata, and Nystagmus. The eye symptoms subsided as a rule, and were followed by somatic symptoms involving the extremities, bladder, bowels, speech, or paresthesias. Thirty of the remaining 112 patients developed eye symptoms during the later years of the disease.

George J. Boines, M.D.



President's Page

THE RESPONSIBILITIES OF THE PHYSICIAN IN UTILIZATION

Utilization Enforcement—Utilization Committees are not new to us; neither is the practice of ducking the issue. For years, Utilization Committees have struggled to promote the prompt discharge of patients and to prevent unnecessary admissions to hospitals. Staff support has been lacking. Medicare may promote urgently needed participation. Obviously, if the patient-doctor relationship is to be preserved, admission and discharge cannot be the responsibility of a committee. To quote a publication of the American Medical Association:¹

"In each of these categories, the Utilization Committee provides answers to such questions as the following: How many of such cases are there? What factors contribute to these conditions? What practical recommendations can be made to the medical staff, chiefs of clinical and non-clinical services, administration, prepayment plans and to the community to avoid these situations?"

The educational approach inherent in the AMA statement has been more remarkable in its failure than in its success. Lacking a real cudgel, the Utilization Review Committee could not work effectively with those M.D.s who consistently disregard community needs.

Now comes the big question: How will Medicare affect the strength and determina-

tion of the Utilization Committee? The fiscal agent for Medicare in this state is Blue Cross-Blue Shield. One of the documents distributed by the Blue Shield representative—who really represents HEW—states the following:²

"Standard D. Reviews are made with respect to medical necessity of services.

1. Base lines for study are set by
 - a. Standard compiled statistics
 - b. Cooperative endeavor with fiscal agency, or
 - c. Internal study of medical records."

This single section puts the doctor on his mettle. If he does not conform, he must justify initially to the Utilization Committee in the face of available statistics accumulated on a broad base. If the Committee notifies him in writing that his patient must be discharged—the fiscal agent gets a copy—after six days, benefits under Medicare will be cut off.

But that is for the individual patient under Title XVIII. Title XIX will have a bearing too. The Utilization Committee cannot make fish of one and flesh of another. The principles will apply to every patient in all hospitals participating in Medicare—and to every doctor.

A. M. Gehret

1. Utilization Review, a Handbook for the Medical Staff, pages 11 & 12.
2. Health Insurance for the Aged: U.S. Dept. of H., E., & W. Soc. Serv. Adm.

Editorials

EMOTIONS AND THE JOB*

"The reader, who may have anxieties of all degrees, will certainly ask himself what can I do to rectify or minimize these? The answer, of course, to try to understand them better, to determine why they appear in the first place, why they may be distorted or prolonged, and why they persist, often long after the precipitating anxiety crisis itself has disappeared."

To answer questions such as the above, two members of our medical society, Drs. C. A. D'Alonzo and Sanford G. Rogg, have written what might be a landmark in medical literature. A book for people who deal with people, such as the supervisor, whatever his level in the management hierarchy, it is written in a style that makes it useful.

Dr. Rogg is a psychiatrist with the Medical Division, Du Pont Company, and Dr. D'Alonzo is their Assistant Medical Director. When asked for some references on this subject, the authors realized that no such a book was available. They also realized that for the non-psychiatric physician, there was a gap in the literature, and this book was written to help the physician, as well as the layman.

The book is based on the authors' wide experience, as well as medical records. Examinations of people from their youth into retirement ages, on well over 500,000 medical records and with over 110,000 employees of the Du Pont Company now working, were utilized. Nowhere else in this country does one encounter a similar set of records. Not even the military, which deals with essentially a younger group of people, and which handles its emotional problems largely by discharging them from the service, is comparable.

There appears to be no relationship between

social class and mental illness; studies show that all groups in our society have about the same numbers of paranoid conditions.

Close to 50% of the people who are going to their family physician's office are clearly suffering from psychogenic illness. This fact is in no sense a denial of the illness itself, but simply a statement that whatever the end result, the basic cause is fundamentally an emotional upset, either sudden or chronic in nature.

The book goes on to state "early in his business life, the executive must decide what he wants from his job, how far he wishes to travel in it, and how much fare he is willing to pay for the journey. All of us are expected to be ambitious, and this point is so much a part of our culture that disclaiming ambition is considered by some, *sine qua non*, a symptom of a distorted thinking in the person. Yet, we know realistically, that not everyone is totally ambitious with the desire to work for ever increasing goals and responsibilities, to always seek higher job levels." This certainly is something that all of us must learn as we go along. What do we want and how much are we willing to pay for it? Will we let our desires so over-shadow our thinking that we make no balance between our busy lives as physicians and as parents, husbands, and citizens of our community?

While the book does not postulate any new trends of psychiatric thought, several of the chapters are pioneering in that the authors have struck out in uncharted directions, guided only by their medical pragmatism. Such a chapter is the one on alcoholism. It should be remembered that the Du Pont Company was the first in industry to have a full-time staff member working specifically in this field, resulting in part, in bringing the problem clearly in the open. Yet, the authors while showing sensitivity to the problem, do not

*Forward by Charles M. Hackett, Charles C. Thomas, publisher, Springfield, Ill. 208 pages, 18 illustrations, 7 charts, 2 tables.

become maudlin about it and are very opposed to coddling the alcoholic.

A chapter on why people become involved in accidents is the first—as far as is known—in the available medical literature that looks at the problem from the perspective used, and makes a strong plea for everyone having some basic idea of how human behavior and emotion may influence our liabilities to become involved in an accident.

About ten years ago the authors became concerned about the uncritical acceptance by the medical profession of the various, skillfully advertised psychotropic drugs. A chapter on the use of tranquilizing drugs—really a statistical study—of the prescribing habits of the private practitioners in Wilmington should be thought provoking to the physician reader. Over 3,000 employees in one year's time who had consulted their private physician were studied. Of these, 25% had received at least one prescription for a psychotropic drug. This chapter, to the present day, still stands as the most thorough study published of the use of psychotropic medications by employed people.

There is a chapter on suicide that all practitioners should read with interest. Because of the current policy of not reporting attempted suicides to the press, a rather serious problem is hidden.

An important chapter is the one on the paranoids entitled "The Difficult, Troublesome Employee." Since 99% of the paranoids are never clinically sick enough to come under a psychiatrist's care, they are never labeled as such, but they continue to poison the environment in which they live. The authors have noticed that all conditions they

might try to describe, even to other physicians, getting across the message that an individual is truly paranoid turns out to be most difficult.

In the chapter on mental health and industrial change, the authors quote Doestoevsky, who said, "if you would destroy a man, you have only to destroy the importance of his work." This quotation is given to underline the importance that Du Pont places upon the individual and the philosophy of the Du Pont Company in dealing with its employees.

Since so many employees come to see the authors with problems concerning their children, there is a chapter entitled "The Problems with Youth." This begins with "a child, says one of J. B. Salinger's perceptive characters, is a guest in the house, to be loved but not to be possessed for the child belongs only to God." We wish this thoughtful notion could be communicated to more parents. It becomes quite clear as people discuss problems with their children, or children discuss conflicts with their parents, that a common subconscious mechanism operates in a number of people who project their own wishes, hidden desires, or frustrations on to their children.

This book should be of interest to physicians, since it contains information, unavailable elsewhere. It should be read by laymen because, to quote a newspaper review, "this is a book which, if widely read, could do more for the mental health of Americans than a platoon of psychiatrists in every office and factory." This review continues, "the authors are two very practical men who daily meet and usually come up with adequate solutions for the emotional problems that appear to be built into modern industrial society."

REFLECTIONS OF A COUNTRY DOCTOR

(Continued from Page 152)

watch the case with interest and you redress the wound with the utmost care. The temperature rises little above normal, remains a few days, then subsides. You feel sure now of your patient's recovery. He does not complain of pain and is resting well. The time was in the

history of surgery that a case of this kind would have been amputated at once, but, thanks to the advancement in surgery, and more particularly to antiseptic surgery, thousands of people walk today on sound legs where in ages past they would have been compelled to hobble the remainder of their days upon an artificial limb.

In Brief

Statistics On University Freshmen

Some interesting statistics about freshmen students enrolled in the University of Delaware have been submitted by Gordon Keppel, M.D., Director of Student Health at the University:

Of the 1,000 students in a class of roughly 1,600 men and women: 76 had pertussis; 156 had had a surgical procedure other than a T&A; 19 were felt to be significantly overweight; 7 had hypertension; 4 had diabetes; and 461 of the freshmen had stopped by the Health Service at least once during the first half year.

Vitamin B-6

Pyridoxine dependency is thought to be due to a metabolic birth defect, according to The National Vitamin Foundation. It states that "like other abnormal individual needs for specific vitamins, pyridoxine dependency is not yet clearly understood. To prevent possible mental retardation or deaths in newborn babies, a Utah physician, Dr. Marino Robbins, has urged that all infants with convulsions be promptly tested for pyridoxine (B₆) dependency. An injection of 10 to 100 mg of the vitamin will relieve the convulsions within 2 or 3 minutes if an abnormal need for pyridoxine is the cause, he notes, adding that "prognosis is related to the interval of time between onset of symptoms and treatment." He suggests that "all infants with convulsions receive an immediate diagnostic dose of pyridoxine" since "late therapy usually leaves the infant neurologically damaged, and without therapy the infant may die."

The Health Care Dollar

Latest statistics issued by the AMA for the year 1964 (*AMA News*) apportion the health care dollar as follows: hospitals (the largest share)—30c; dentists—10c; health insurance—7c; appliances—4c; drugs—17c; miscellaneous expenses—5c. The remaining 27c goes to physicians, a percentage which has declined slightly over the past 20 years.

Brief Briefs

Hospital outpatient visits and admissions reached new peaks in 1965 while total births continued the sharp decline started in 1961, according to a current issue of *Hospitals*, JAHHA. The decline in total hospital births coincides with the report early this month by the PHS which placed total 1965 births in the U.S.A. at 3,767,000—a figure on a level with the birth rate for the mid 1930's.

The Brandywine Springs Nursing and Convalescent Home, Wilmington, has been designated the "Nursing Home of the Month" by *Nursing Home Administrator*, McGraw-Hill Publications.

Racial Guidelines For Hospitals

The Department of HEW has issued strict guidelines prohibiting racial segregation in hospitals receiving money from the federal government. Patients must be assigned to all rooms and facilities without regard to race, color, or national origin; all persons must be free to use entrances, admission offices, waiting room, dining areas, lavatories and other service facilities; hospitals must accept and approve application for staff privileges in training without regard to race, color or national origin. Where discrimination persists, after a warning, the hospital will be excluded from any new federal assistance programs.

Out-Patient Services Committee Program

The next five meeting of the Wilmington Medical Center's Committee for out-patient services are listed below. The Committee meets weekly at 9:30 a.m., Library Annex—Nurses' Residence, Delaware Division. Anyone is invited to offer information and to attend any session.

Date	Topic
June 8, 1966	8. Emergency and Accident Services
June 15, 1966	9. Pediatric Out-Patient Service I A. Clinics B. Overlapping Community Services
June 22, 1966	10. Pediatric Out-Patient Services II A. Specialty clinics 1. Allergy 2. Adolescent 3. Psychiatric 4. Rheumatic Fever
June 29, 1966	11. Medical Out-Patient Services I A. Clinics B. Miscellaneous Procedures C. Overlapping Community Services
June 6, 1966	12. Medical Out-Patient Services II A. Subspecialty clinics 1. Allergy 2. Arthritic 3. Cardiology 4. Special Cardiology 5. Chest 6. Dermatology 7. Psychiatric

Speakers On "Doctor's House Call"

Speakers scheduled for June on the Tuesday radio program, "Doctor's House Call," (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: June 7: Robert L. Meckelnburg, M.D., Medicare; June 14: A. Henry Clagett, Jr., M.D., Hypertension and Heart Disease; June 21: Donald H. McGee, M.D., Premature Babies; June 28: Edward Becker, M.D., Crossed Eyes.

Medical Textbooks Needed

Aid for International Medicine (A.I.M.) is a Delaware corporation established for the purpose of extending medical help to areas in which one or more members of the Board have personally served and documented the need. The Board consists of Dr. John M. Levinson and Dr. Davis G. Durham of Wilmington and Dr. Alfred B. Swanson, of Grand Rapids, Michigan. At present, it is concentrating its efforts directly upon South Viet-Nam.

A.I.M. is particularly interested at present in providing reasonably current medical textbooks for study by South Vietnamese physicians. Donations of medical texts dated 1955 or later would be greatly appreciated. The books may be left at Dr. Levinson's office at 1411 N. VanBuren Street, Wilmington, or at the office of the Medical Society of Delaware.

DAMA News

Mrs. Olwyn Hawkins has been elected president of the Delaware Association of Medical Assistants. Other officers elected were: Mrs. Emily A. Grass, President-Elect; Mrs. Evelyn Neumann, Vice President; Mrs. Amy Sklut, Recording Secretary, and Mrs. Helen Norris, Treasurer. The annual installation of officers was held on May 25th at the Columbus Inn. David E. Saunders, M.D., was the guest speaker.

Auxiliary Affairs

REPORT OF THE AUXILIARY PRESIDENT

I am grateful for the generous way each member has taken on her responsibilities and seen them through. Mrs. Christos Papastravos, our president-elect, was ever-ready to lend a helping hand. Mrs. Gerald Savage, vice president, did a fine job of arranging our programs for the year. Mrs. Howard Wilk, recording secretary, presented me with beautifully detailed minutes of all our meetings. Mrs. James Kerrigan, treasurer, has provided me with really expert reports and advice. Mrs. Conley Edwards, corresponding secretary, faithfully sent out notices to all executive and general meetings. I would like to thank the Board of Directors, Mrs. Allston Morris, Mrs. I. Lewis Chipman, Mrs. Peter Olivere, Mrs. John Howard, and Mrs. Oscar Stern for their readiness to attend meetings and to give thoughtful suggestions. I am especially indebted to our past president for the many times she has been of help to me.

Our activities began when I was asked to supply some auxiliary members to be hostesses during public tours of the ship *Hope* while it was docked in Philadelphia. About 10 members were able to help out.

In October, eight members volunteered to help at the Delaware Antiques Show for the benefit of the Delaware Hospital.

Our AMAERF chairman, Mrs. Robert Price, reports a contribution so far of \$627.74. Mrs. Douglas Gay, chairman of Archives, and Mrs. C. B. Heckler, report that they have spent approximately 50 hours bringing the Archives up to date.

Mrs. Pierre LeRoy, Chairman of Community Service, has very enthusiastically gone forward with the organization of a new project this year which we expect will be a permanent community service. This is a visual screening program for early detection of eye defects in preschool children. Her committee also collected clothing and delivered it to the Emily Bissell Hospital, and at Christmas \$25 was given to the Delaware State Hospital's Operation Reindeer.

Mrs. David Levitsky, Finance chairman, prepared an excellent budget with the help of the budget committee. Mrs. Peter Potocki and her committee on Health Careers and Recruitment will be interviewing prospective students for the new Wilmington Nursing School, who hope to receive scholarships. Mrs. I. J. Tikellis has worked hard and faithfully planning luncheons for our five general meetings. Mrs. Edward O'Donnell, chairman of the Legislation committee, made regular reports on State and National legislation. She reported that the DeBakey Bill has been passed. This bill will establish a chain of stroke, cancer and heart research centers throughout the country. Mrs. Mark Cohen, chairman of the Membership committee, reports that our membership has risen from 255 members to 267 members. Mrs. Thomas Brooks, chairman of the Mental Health Committee arranged for members to work in the reception office in the Springer Building at the Delaware State Hospital and also in the library. Mrs. James Flaherty, assisted by Mrs. Morris Harwitz and other auxiliary members, had a very successful day at our booth at the Farnhurst Fair.

The Operation Handclasp committee, whose chairman is Mrs. Walter Comer, have been working on a "person to person" approach to meet the needs of a foreign doctor's family coming to Wilmington for the first time. Some wives were guests at the Auxiliary Luncheon-Fashion Show. Mrs. Gerald Savage, Program chairman, arranged for five interesting speakers for our general meetings. The Sewing chairman reported 250 garments have been turned in to the Visiting Nurses' Association. Mrs. Sanford Rogg, Chairman of the Ways and Means, reported four projects for the year. A New York theatre trip made a profit of \$177.31 for the Scholarship Fund. The Luncheon-Fashion Show at the Gold Ballroom netted \$933.94 for the same purpose.

I want to thank everyone for helping the Auxiliary achieve its purpose this year.

Joan D. Whitney, President

WHAT EVERY PHYSICIAN SHOULD KNOW ABOUT MEDICARE

- The provisions of the Medicare Law require the physician's understanding and participation in order to preserve quality health care for patients of all ages.

WILLIAM O. LAMOTTE, JR., M.D.

It is important that each physician understand the provisions of the Medicare Law, as well as the regulations to be finally approved. He must know something of the benefits which aged recipients will be expecting, and he must be in a position to remind his aged patients and their families that they have responsibilities as well as rights in this program. The physician must be aware of his own responsibilities to his patient and to the hospital or related institution which he serves. He must also be fully cognizant of his own rights and freedoms and protect them in a rational and responsible fashion, lest ignorance and complacency whittle them away in a quiet and subtle fashion.

Reasons Why the Physician Should Know and Understand the Program.

1. The Medicare Law is now the law of

Dr. LaMotte is Chairman, Committee on Public Laws, Medical Society of Delaware; Member of the Council on Legislative Activities, AMA; Consultant, Advisory Committee of AMA to the Dept. of H.E.W.

the land even though many of us have opposed its passage and may even still be opposed to it in principle. As citizens, we may reserve the right to change this law through all legal channels including the ballot. Nevertheless, as citizens we must observe the law. As physicians, we must do everything in our power to see that it does not seriously impair the quality of health care, nor place unwise barriers between the doctor and his patient.

2. The physician will serve as the key which unlocks the door to the benefits provided by the program. Only the physician can certify a medical need for hospital care, for extended care, and for most of the other services provided. The physician is the most important member of the utilization review team which will attempt to preserve beds in our institutions for their proper use. His conscientious discharge of this responsibility will help minimize the potential disruption of quality service to patients.

3. The physician is the person to whom the patient is most likely to come for advice and information about Medicare. The public is woefully ignorant about many aspects of the program and entertains many misconceptions which may lead to unfortunate experiences. People have been told much about the benefits they can expect, little or nothing about their responsibilities. The physician must be prepared to fill this gap for his individual patient.

4. The physician must analyze and clarify his own concepts concerning the place of the practitioner in the changing medical scene. Where he has a choice of a course of action, he must make it with full understanding of its short term and long term implications, its effect on the individual patient, on his relationship with that patient, on the success or failure of the Medicare program itself, on the medical profession of which he is a part, and on the future of medical practice as he wants it to be for his patient.

The Law Itself

The physician should certainly know that what we refer to as *Medicare* is only a part of a much larger piece of legislation known as Public Law 89-97. He should know that it includes, in addition to Medicare itself, the following:

1. Compulsory Social Security coverage for self-employed physicians.
2. Liberalization of the disability insurance program.
3. Grants relating to emotional illness in children.
4. Appropriations for maternal and child health and crippled children services, including funds to promote the health of children and youth of school age, particularly in areas with concentrations of low income families.
5. Extension of programs for mental retardation grants to states.
6. The establishment of Title XIX, with all of its ramifications and implications and responsibilities for the future.

The physician must understand the basic provisions of Part A and Part B of the Medicare Law itself. He should know that Part A is really the current version of what we have known in the past as the Forand Bill and, later, the King-Anderson Bill. The most important thing for the physician to understand is that there are areas of health care which are not covered. A major responsibility of the physician is to be in a position to remind his patients, both individually and through whatever media he can find, that they have important responsibilities as well as rights. Some of these may be outlined:

Patient's Responsibilities And Rights

I. Medicare does not cover all health care for the aged, and does not pay the total cost for those benefits covered.

A. What it does *not* cover — *Hospital Portion:*

1. Hospitalization after 90 days, extended care coverage after 100 days.
2. Hospital accommodations more expensive than semi-private (2 to 4 bed type).
3. Private duty nurses.
4. Any nursing home care before January 1, 1967.
5. Any nursing home care except after 3 days of hospitalization in a general hospital.
6. Any nursing home care except for the condition (or a related condition) for which the patient was hospitalized in the first place. It is very important for physicians, potential recipients, and their families to know that custodial care is not a part of this coverage. It is intended to be for the care of the sick alone.
7. Home Health Services except following hospitalization. (But these may be covered by Part B without hospitalization.)
8. Drugs outside the hospital or nursing home.

B. What it does *not* cover — *Medical-Surgical Portion:*

1. Routine physical examinations and checkups.
2. Routine eye examinations.
3. Eye glasses.
4. Hearing aids.
5. Orthopedic shoes.
6. Immunizations.
7. Cosmetic surgery.
8. Dental work except for surgery involving the jaws.
9. Drugs except those which have to be administered by the physician.

II. What the Program does *not* pay for in relation to the benefits provided.

Part A — Hospital Portion

1. First \$40.00 of hospitalization cost.
2. \$10.00 per day for hospitalization from the 61st through the 90th day.
3. \$5.00 per day in extended care facilities from the 21st through 100th day.
4. The first \$20.00 of out-patient hospital diagnostic studies and 20% of the remainder.

Part B — Medical-Surgical Portion

1. The first \$50.00 of covered medical-surgical expense in any calendar year, less expenses of the last three months of the preceding year which applied to that year's deductible.
2. 20% of the physician's charge determined to be reasonable and customary.
3. Any part of the physician's charge which may exceed the determined reasonable and customary charge.

The Physician's Responsibility

II. It is important to understand that only the physician can certify the need for service, including hospitalization or/and nursing home care. Two things of which the physician should constantly be reminding his patients:

A. Don't try to pressure your physician into certifying for hospital and nursing home care where there is obviously no true medical need.

Reason — Every effort must be made to preserve beds for real medical needs for patients of all ages.

B. When your physician says there is no longer a medical need for hospital or nursing home care, don't try to extend your stay because someone else is paying for it. Each institution is required by law to have a Utilization Committee which will back up your doctor when he says care there is no longer medically necessary. The Medicare Program will stop paying for your care under these circumstances.

Regulations the Patient Must Know

III. Patients who have had their health and medical costs defrayed by prepayment, such as Blue Cross-Blue Shield, have been accustomed to having the plan pay their physicians directly. This may be possible under Part B Medicare *only* if for each service rendered, authority is granted by the signature on the claim form of both patient and physician. When your physician takes care of you in your home, in his office, or in the hospital, he may prefer to deal directly with you as the patient when submitting a fee for his service. The law provides that the physician has this choice. He may believe that the patient-doctor relationship is made more responsible through this method. In this case you will pay the doctor directly as you always have. You will receive a receipted bill from him, which you may then submit to the carrier in your area which is running this program for the government. Assuming the \$50.00 deductible has been satisfied, you will then be reimbursed by the carrier for 80% of the doctor's charge if it coincides with or is less than the determined charge for that service. If his charge exceeds the determined charge, you will be reimbursed by the government for only a portion of the bill which you have already paid to your doctor. The portion for which you will not be reimbursed is 20% of the carrier's determination of the reasonable fee and all of that difference between the determined fee and the doctor's true fee. In other words, don't expect the government to pay your bills directly and automatically. Medicare should be thought of

as an arrangement between the over—65 patient and the government, not between the doctor and the government. If all potential recipients of health care understand that this approach is provided for by the law and that the use of this approach by the physician is legitimate, they will not be misled. Many doctors feel that such a direct patient-doctor arrangement is basic and will help maintain a fundamental building block in the doctor-patient relationship.

Medicine's Contribution

The present Medicare Law is not as bad a law as it would have been had not American Medicine been fighting it over the last number of years, and had not medicine offered its advice to the various government agencies during the development of the implementing regulations.

Problem Areas in Which American Medicine Should Recommend a Policy Position

1. Utilization Review Committees

As far as hospitals are concerned, this requirement will soon be one also of the Joint Commission. The existence of such a committee is valid for many other reasons than Medicare. Its purpose is to help the hospital serve its patients better. If a physician accepts the responsibility of being on the staff of the hospital, he should accept the responsibility of serving on its staff committees. As far as Medicare is concerned, each hospital will work out its own mechanics. The law provides for administrative costs involved in utilization review in respect to Medicare. It is entirely possible that a rotating subcommittee of the hospital's main Utilization Review Committee may be assigned to Medicare problems, and to this extent it may be perfectly acceptable for physicians to have their time reimbursed for this service. If this is done, it should be in a manner which would not establish a precedent for the reimbursement of physicians serving on hospital staff committees in general.

2. Reimbursement for hospital-based physicians remains a sticky problem. The basic principle of hospital-based physicians' deal-

ing directly with their patients and billing them, as does any other physician, was the reason for medicine's effort to bring such physicians under Part B. Confusion has arisen in regulatory interpretations of what is a service to a patient and what is not. Apparently the government and the hospital association are going to insist upon at least a portion of the services of hospital-based physicians being reimbursed under Part A. The basis of revised Principle 3 of the regulations is the establishment of an agreement between any given hospital and any given hospital-based physician on a percentage of his services to be so reimbursed. This does not seem likely to work unless the hospital does the billing for the physician, to prevent the patient's receiving two bills for what he will consider one service. On the other hand, this very mechanism violates the basic principle of the physician's billing for himself, and hence negates the long struggle to keep hospital-based physicians out of Part A of Medicare. This is a dilemma yet to be resolved by physicians. One solution would rest in a satisfactory lease arrangement between hospital and physician, but this approach itself is not looked upon with favor by some of the hospital-based physicians, especially the radiologists.

3. Direct-billing versus Assignment

Under Part B of Medicare there are two methods provided for payment of physicians' services. The first is the assignment method, in which the carrier pays the doctor 80% of the fee determined by the carrier. This is done when both patient and doctor so request on the claim form. Such a request also binds the doctor to the fee determined by the carrier, and leaves it up to the doctor to collect the other 20% from the patient.

The second method is that of direct billing, in which the doctor bills the patient and the patient collects what is due him from Medicare by submitting a receipted and itemized bill to the carrier.

There are a number of reasons why I think physicians should use the method of direct billing as a general policy, reserving the assignment approach for special cases such as

Kerr-Mills or/and Title XIX beneficiaries. Some of these reasons are:

1. Mutual responsibility between physician and patient is encouraged.
2. The concept of a private physician-patient relationship is promoted when the physician deals only with the patient.
3. The physician and his office do not have to be concerned with:
 - a. The status of the patient's deductible.
 - b. The 20% co-payment.
 - c. The fee determined by the carrier to be reasonable, customary and prevailing.
 - d. The problem of whether the service rendered is covered by Medicare or not.
 - e. The forms and procedures of Medicare.
4. The physician preserves his right to determine what his service is worth.
5. The use of the direct billing method is in accord with the law and does *not* represent a form of "non-participation" in Medicare.

4. Physician-Certification for Services under Part A

The Medicare law will create new and increased pressures on the physician, not all in the same direction. Those who are potential beneficiaries of the program may push him one way, those who are responsible for the fiscal soundness of the program may pull him another. It seems unnecessary to remind the physician that there always will be only one answer to this: In certifying the need for admission, and in certifying the need for care in a hospital or an extended care facility, the physician should be guided solely by the medical needs and requirements of his patient.

5. Relationship of Physicians to Carriers

Physicians should offer their professional advice, when requested, to aid the carriers in the development of the reimbursement program under Part B. This should be done

through the appropriate established committees of the medical society in the area, usually a prepayment committee already cooperating with the carrier in the broad issues of health insurance. Individual fee problems can be brought before the medical society review committee which has already been dealing with similar cases with the carrier. I believe that no separate medical society committee should be established specifically for the review of Medicare cases. Regulations provide a means by which the patient can obtain a hearing directly from the carrier if he believes he has not received adequate reimbursement. Except for the non-medical society affiliated physician, no such direct mechanism need exist for a hearing between the individual physician and the carrier. Already existing mechanisms within the medical society structure should instead be utilized in the usual fashion.

The carrier (in Delaware, this is Blue Shield) acts as a responsible dispenser of government funds through Part B of Medicare, under a cost-plus contractual arrangement. It therefore has responsibilities to the government, but also equal responsibilities to the patient, to the physician, and to the community. The carrier must resist any tendency to become primarily an agent of the government by maintaining its obligation to everybody involved, even at the risk of non-renewal of its annual government contract.

Conclusion

As the reality of Medicare is about to appear on the American scene, no useful purpose can be served by physician ignorance, complacency, or resistance in relation to the program. On the contrary, both physician understanding and participation are necessary in order to preserve quality health care for patients of all ages. Furthermore, by careful and intelligent exercise of his own options and choices under the law, the physician can help preserve that which is more important than the system of financing, namely the personal and responsible relationship between doctor and patient.

THE PHILOSOPHY OF A PROGRAM OF CLINICAL PASTORAL EDUCATION

- This program reflects what is happening nationally in health and welfare institutions. Drawing upon the religious resources more and more as an important aid to patient care, it is proving successful in spite of myriad problems arising because of the religious dimensions.

ROY E. RAYMOND, *Chaplain Supervisor*

The Chaplaincy Program at Delaware Division has been in operation now for four years. What distinguishes this program from a typical Chaplaincy Service is its educational structure, which is deliberately patterned after a program of Medical Education, even to the use of nomenclature. Interns (and in the future, Residents) function as responsible Chaplains, under the tutorial oversight of the Chaplain Supervisor. They receive Stipends, they spend a period of a year in full-time training, they rotate through different services and areas of the hospital, and they have a system of scheduled on-call and on-duty availability.

The fact that this Educational Program is conducted in an Institution centered around the Medical diagnosis and treatment of acutely ill persons begs the question as to what this Program is all about. The question itself arises partly out of common expectations of what a minister does when he visits the sick. These include scripture reading, prayer, the Sacraments of Communion and Baptism, confession, and general conversation that aims at an increase in morale and optimism on the part of the patient, i. e. "the good Lord is watching over you", "things will work out". No intensive training is necessary for this type of ministry in that it is perfunctory.

A good Pastoral Ministry in this familiar sense is of inestimable worth to the well-being

of a sick person. However, to this familiar ministry is added availability, concentration, and depth which makes the work of the Chaplains somewhat unfamiliar. *Availability* is premised on the fact that the hospital, which serves around-the-clock, is the Chaplain's "Parish". *Concentration* is added in the single-focused rather than multi-focused role of the Chaplains, which is that of Pastor, excluding additional roles of Administrator, Teacher, Programmer, and etc. *Depth* is added in terms of understanding, insight, and empathy. How this is so will be pointed out below, but it suggests that what a Pastor can "be" to a patient is more important than what he "does". The Education of a pastor then takes place in this unfamiliar context and has the aim of enhancing the pastoral relationship using a clinical approach. Therefore, our program is educational in structure, pastoral in focus, and clinical in method. In an attempt to clarify further what this program is all about, the remainder of this paper will concern itself with describing the three areas pointed to by the terms Clinical, Pastoral, and Educational.

I. Clinical Pastoral Training as an Educational Program

As an Educational activity, this Training Program is subject to Standards and to a process of Accreditation by a national organization known as the Council for Clinical Training, Inc. This group certifies Chaplains as Supervisors and accredits Institutions as

Chaplain Raymond is Supervisor of Chaplains, Delaware Division, Wilmington Medical Center.

Training Centers. The Central Office, located in New York, also is a national Registrar's Office for all men interested in applying for Training. An institution which has a Clinical Pastoral Training program is thus viewed as an Accredited Center of the Council for Clinical Training.

The Key Figure Is The Supervisor

The key figure in the teaching program is the Chaplain Supervisor, who not only supervises the Chaplain Interns but establishes the philosophy of the Training Center and selects the students whom he wishes to train. In order to become a fully *Certified Chaplain Supervisor*, a man must spend twelve and a half years in preparation: four years of college, three years of seminary, a minimum of three years in the Parish as an ordained minister, a minimum of two years of Internship and Residency Training in one or two different settings, a minimum of six months training in Supervision, and a minimum of two years in a Provisional status during which time he establishes and conducts his own program. If he intends eventually to reach the status of *Training Supervisor*, he must conduct "twenty student units" as a Full Supervisor. This again means a minimum of three additional years, and an average of six. Therefore in post-high school preparation for the status of Training Supervisor a man must spend a minimum of seventeen and a half years, and an average of twenty. Obviously, then, a Chaplain Supervisor values professionalism and effectiveness. His professional identity is that of a *Clinical Pastoral Educator*. His concern is for Education and Service, and he is Chaplain, Teacher and Clinician. He could be called a Teaching Pastor, a Chaplain Supervisor, a Spiritual Tutor, etc.

The student is of course a key figure also as he manages the bulk of the daily pastoral work. He may be a Seminarian, un-ordained and in-experienced, in one single quarter of training. From this first Quarter of Training into Advanced Training in the practice of Clinical Pastoral Training as it has historically developed (c. 1925) there is a big jump. For a man to enter the latter level of train-

ing, he must be a graduate of an Accredited Theological School, ordained, with a minimum of three years experience in the pastorate, and he must have the approval of his ecclesiastical superiors. Further, it must be the judgment of one Supervisor who conducts a Screening Interview with him that he is flexible enough to "grow" both personally and professionally in his training. Oftentimes, psychological tests are used to make this judgment.

Apart from the initial Quarter of Training which is reserved for Seminary students, most of whom are not Ordained, the student in Advanced Training comes into Training after several years (three to fifteen) functioning as a professional person in a Parish. To become a student under someone else's supervision is a humiliating experience for such a veteran, as he is a "post-graduate" and can function in a full-blown way as a Chaplain. This fact is one of the essential differences between the Clinical Pastoral Training Program and the Medical Education Program.

The Student's Process Of Growth

The milieu of the clinic, together with the motivation to learn, involves him in a painful process of growth. He is heavily confronted by the pain and the suffering, not only physical but also environmental, emotional, social, cultural, etc. of those he pastors, and he has no "body of knowledge" to fall back on for guidance, but only his own courage and the support of the Supervisor. He needs the additional support of the hospital team to help him tolerate his anxiety and to learn. He cannot function in an isolated professional role. Furthermore, the depth of the Pastoral role which he has assumed throws into sharp relief his overinvestment in his role as preacher, or administrator, or teacher, and for him means the difficult establishment of a new *professional identity*. Most important, he is surrounded by other and strange "authorities" in the doctors, nurses, and administrators. For a clergyman who has been his "own" authority, an extended period of adjustment is required before he can claim peership with these new authorities. It is this latter experience that enables him to identify with the Institution, to feel a sense of responsibility to

both the Pastoral needs of the Staff and of the patients, to tolerate the gaps in the Hospital environment and to want to share the responsibility for them. Within the clinic there are other students who share the same process of learning, the same questioning, the same readjusting, and in this group context he is supported and encouraged.

Parallel Emphases

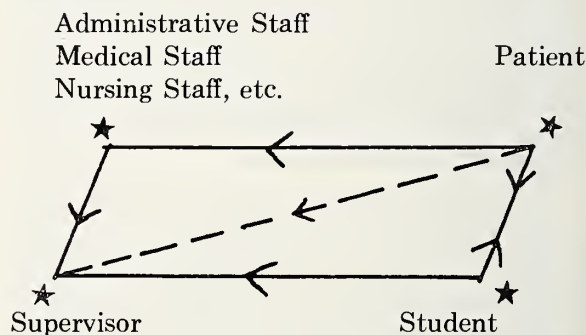
In any valid program of Clinical Pastoral Education, the theological and the psychological emphases (pastoral and psychotherapeutic) parallel one another. Both resources are needed in order to interpret the neediness of a person, which is the same irregardless of how it is described. A psychological description is more "precise". When this is then set in a theological context, it makes the pastoral care that is offered to the person more relevant and therefore more meaningful. Both resources are used to help interpret the degree of stress a patient is under, his capacity to handle stress and pain, the degree of support he needs, and the mode through which this can best be offered, i.e. personal, sacramental, representative.

Accordingly, the "needs" of the student are interpreted both psychologically and theologically. For example, at any given moment, a student's ability to minister to a person is not dependent on his facility with a body of knowledge as much as on his own personal state. A student may be very supportive of a patient and able to establish a strong rapport, until the patient reveals a need to grieve more fully over a new disability, a newly deceased family member, or some other loss, new or old. At this point the student unawares may change the topic, divert the patient, or simply bid his goodbye and leave. The Supervisor would raise the question with him about why he left at this time, try and help him to discover if he personally may have considerable unresolved grief (over perhaps his father who died recently), and if possible help him to work through this so that he can both be free within himself, and freed to return to the above patient (or to another) and minister to a grieving person in a more effective way. If

a student's need calls for psychiatric help then he will be referred to a psychiatric counselor. This program is thus "dynamically" rather than "didactically" oriented (or clinical rather than academic). It is assumed that the Supervisor has the qualifications of training to interpret a person's needs on both a theological and psychological level.

It is imperative for the program of Clinical Pastoral Education to have the full support of the Institution. Claiming no legal "rights" in regards to the patient (as this would undermine a Pastoral ministry) a Chaplain nevertheless needs to be a full-fledged member of the Institutional Team, a Department Head, and responsible to the Administration of the Institution. Obviously honorary *status* is not enough; he needs to have *standing* as a Staff member. In a subtle but direct way, a lack of standing contributes an extra burden to the student, adding objective fact to his feeling, already strong, that he is "intruding" into the Hospital setting. Likewise, a lack of standing means that the Supervisor has always to deal first with his anxiety over feeling himself to be an intruder and somewhat illegitimate. Both student and Supervisor need to feel that they have a place, they are members of the "healing team", and that in this Educational Milieu a "mistake" does not jeopardize the program but is part of the learning process. In the diagram is represented four significant poles in a Clinical Pastoral Education program.

Institution:



However, a voluntary, short-term, non-profit General Hospital or Medical Center establishing a Chaplaincy Program of a particular religious coloration is always a serious ques-

tion for the governing authorities. One important consideration is that the Council for Clinical Training, as a principle of Accreditation, insists that a program not be narrowly denominational, i.e. Lutheran or Baptist or Methodist or etc. Experience has shown that the more denominational "spread" in terms of students' religious backgrounds, the more *education* takes place. This suggests that an inter-faith "spread" would further enhance the education of a student, even though this goes beyond the Accreditation principles of the above mentioned group. The limitations are not inherent in the nature of this training or in the accreditation standards, but pertain to the general relations which prevail between Protestantism, Judaism, and Roman Catholicism. The attitude of the two latter faith groups towards ecumenical, theological education inhibits inter-faith training. Even though the clinical approach can be utilized to train in any theological perspective, it is unlikely, at least for the foreseeable future, that either a Rabbi or a Roman Catholic priest would apply for training in a predominately Protestant setting. What is more likely is that the Catholic and Jewish Faiths will develop their own programs first. This kind of development would then open the door to cooperation between these and any established programs. This has already been done in Washington and New York.

II. As a Clinical Program

Clinical in method, this program has the combined elements of training and service as does Medical Education. Interns function as responsible Chaplain/Pastors under the Supervisor's oversight. In reality, the Supervisor shares with his students his responsibility for the Pastoral care of all patients within the Institution, as well as his wisdom and experience.

The Chaplaincy Staff thus shares in the real opportunity for Education and Service which the clinic offers in view of the various and extensive human pathology which is seen, appraised, and cared for. The real opportunity here for the field of Pastoral care is to find a more relevant "model" of human na-

ture (i.e. Doctrine of Man) that can lead to more effective patterns of pastoral ministries. By more relevant is meant one that takes into account the whole man, including his physical illness and the way this reflects his personal orientation to life. In the Hospital, the radical pathology, pastorally speaking, is the degree to which the person is separated from his illness and therefore from himself. One writer, (F. R. Riechmann) has said that physical illness is the last ditch stand of the "psyche" to secure itself against overwhelming odds. What does this kind of reality say about life, about human nature? Pastors in the hospital can study the pastoral needs of men in a way that would help to make the Church more relevant and effective in ministering to us as human beings where we stand. Again and again students of theology are heavily confronted with the unbelievable and radical extent of the suffering of mankind which is seen in the hospital.

The Chaplain is a *representative figure* like the Doctor who represents the authority and skill of medical science and technology. However, elements in the Chaplain's symbolic role important to the patient have to do with religion, the Church, God, and etc. Perhaps these different and infinitely varied representations can be gathered into one role defined as the role of Shepherd (although this is not a modern symbol) and the elements of trust, dependability, concern, which cluster around this. In this symbolic role, within the context of the hospital, the Chaplain calls upon a patient as one who "represents" an evaluation of the person which is neither pragmatic nor subject to revision or testing, but an evaluation that is firm, primary, ultimate, and not altered by the responsiveness or unresponsiveness of the patient.

The Chaplain also *represents the Institution* in a very direct way. The fact that his identity is as a member of this community of suffering, takes precedence over both his and the patient's differing religious backgrounds and affiliations. That a Chaplain can potentially become a more trustful figure than the patient's own Clergyman, because he, the Chaplain, is on the inside as a member of the team has

been proven time and time again. This fact added to his symbolic significance, heightens the potential meaningfulness of his conversations with each patient whom he visits. As a member of the Institution, he calls as one who has the Identity, the time and the flexibility of schedule, the skill and compassion to meet the patient and to discover "who" the patient is.

Further, the Chaplain *represents himself*. He is a person who can tolerate either personal closeness or emotional distance, both of which are very important to a ministry. Supervision of a student, and the paramount importance of the Supervisor-Student relationship comes at this point — to help the student uncover and use the resources of his own personal life for a ministry. This points up the rather humbling truth that there are no "experts" in the field of Pastoral Care, no "cumulative body of knowledge" that can be taught. The Supervisor simply responds to the student in such a way that enables the student to emerge as a person who is able to sympathize, to understand, to support, and to give friendship, disinterested time and an investment in concern. The Chaplain relates to the student in different ways, as teacher, pastor, therapist, guidance counselor, pace setter, etc. To enable him to feel more at home with the patient and with himself, and to offer himself in a more personal way.

The Chaplain Intern's Pastoral calls are made "observable" and therefore "supervisible" through his written reports. He writes these through the recall of his pastoral conversations and they reveal his and the patient's verbal responses as well as their feelings and emotional reactions. The Summary and Verbatim reports are the two main clinical tools which we use, and it is the Clinical Pastoral Training movement's refinement of the Verbatim Report which is a significant contribution to clinical records. These reports are discussed in conferences and seminars on appropriately different levels. The confidentiality of the reports are maintained on the same basis as the medical records, except they remain in a locked file in the Chaplain's office.

These belong to the Chaplain rather than the Institution. The Chaplains function under the traditional legal immunity of the Pastoral Office.

Through these reports the relationship between the patient and the Chaplain Intern is objectified. To illuminate and enhance the qualitative interaction between these two persons is the goal of supervision. The fact that it is the relationship between two people which is focused on, distinguishes this training from "technical training" where the focus is objectively on the patient, or from psychotherapy where the focus is subjectively on the Chaplain Intern. By defining the patient's needs and describing the Chaplain's response, and through this to effect a more helpful pastoral relationship, is the goal of Supervision and training.

The clinical approach has a two-pronged thrust. It is the interpretation of a report written by a student in a way that gives the student insight into what happened in the relationship. However, it also represents a constant attempt by the Supervisor to push back behind his own awareness to uncover the presuppositions which he uses to interpret. These are then tested out and evaluated. This approach thus engages the "maturity" of a Supervisor in a constant challenge to be flexible, open, and courageous. It is also a way of building a "conceptual framework" which can be made intelligible.

III. As a Pastoral Program

In the eyes of the Chaplaincy staff, the medical needs of the patient have priority over all other definable needs. A Chaplain will be pastorally sensitive to the physical condition of the patient, to the priority of the doctor's time and presence and/or other medical personnel, and to the routine and schedules of the hospital. He will thus have the courtesy to yield his own privilege for the patient's good. He does not function out of some vague notion of a "soul" being more important than a "body". Indeed, his concern includes the patient's physical discomfort, but he approaches the patient with a

different orientation and goal. However, a Chaplain recognizes that there are exceptional times, even in an acute General Hospital, when other needs of a patient have priority over his strictly medical needs. At these exceptional times, he will be expected to appropriately exercise his pastoral privilege by communicating his judgment to the doctor or other staff member.

The Pastoral Visit

The contribution of the Chaplaincy Program is basically through the Pastoral visit. It is what happens when the Pastor calls on his parishioners in contra-distinction to what happens when the parishioner calls upon the Pastor. A Chaplain knocks on a door and offers (not necessarily verbally but simply through his presence) to become for a time this person's Pastor. The fact that this call was unsolicited by the patient provides a "trustful" mood. A Chaplain knows what an unsolicited call means to a patient, viz. being remembered and not forgotten in time of need, which is one of the most comforting and emotionally healing experiences. Hence, our rather complex program of facilitating the relation between the newly admitted patient and his own Minister, Rabbi or Priest, and the system of selecting patients for "general" unsolicited calling by the Chaplaincy Staff. However, it is not only the visit by the clergyman, or Chaplain, or his immediate presence and concern, but there is also in the background of the patient's awareness, the realization that someone else is sensitive to all his needs as a person: the Hospital? the Medical Staff? the System? the Community? God? etc.

A Chaplain (like a volunteer) has no "rights" in regards to the patient which reflect an agreed-upon contract. The doctor, nurse, dietitian, for example, can expect a patient to receive their services, which if refused would lead to the cancelling of the contract and the discharge of the patient from the Hospital. The Chaplain, not having this right, can offer his services to the patient as a Pastor. (This offer is also an invitation.) The patient is thus free to respond as he will: this fact provides the basis for the unique

contribution of Pastoral care. The patient is protected in that no demand can legitimately be made upon him for accepting the Chaplain's offer. Even a non-acceptance of a Chaplain by the patient provides the Clinical experience of growth for the Chaplain Intern through such questions raised with him by the Supervisor: (a) What may you have contributed to the non-acceptance of your offer of a ministry? How did you offer it? Was your offer real? (b) What does non-acceptance do to you? How do you respond? (Is he pre-occupied with this non-acceptance, rather than moving on to another person? If so, why?)

This offer provides the ground for the basic philosophy of Pastoral visits in this particular program, which could be labeled an *Eductive Ministry*. The patient will always lead the Chaplain to the areas of his greatest need. That is to say that the Chaplain will be sensitive to the "cues" or "hints" given him by the patient. This does not mean the Chaplain must maintain a passive role but he must follow the patient's lead.

The unsolicited pastoral call is part of the structure of service and training but does not have top priority on the Chaplains' time. This priority is given to the referral which comes from various sources, Doctors, nurses, family members, clergymen, or directly from the patient himself. If this referral is in the nature of an emergency, a Chaplain will interrupt all other activities and respond unequivocally. However, the unsolicited pastoral calling includes daily pre-operative visits which have second priority on his time. Furthermore, a Chaplain's call may result in a more structured pastoral counseling relationship, which is definitely problem centered and may be only indirectly related to the reason for a patient's hospitalization. This latter counseling can happen frequently with employees whom the Chaplains meet on their rounds.

Therefore, as a Program of *Pastoral Care*, the Chaplaincy makes its own unique contribution. It does not offer medical care, psychiatric care, social service care, nursing care, etc. It offers pastoral care which is sensitive, clinically relevant, and always open to scrutiny.



ONE POSSIBLE APPROACH TO THE CONTROL OF DRUG ADDICTION IN DELAWARE

• The author encourages the setting up of a Drug Control Board in the handling of drug addicts. This would serve to emphasize the medical and treatment aspects of the problem and minimize the punitive aspect.

WILLIAM J. VANDERVORT, M.D.

The drug addict who is apprehended in Delaware is sent either to the State Mental Hospital or the State Prison. At the State Hospital the psychiatrists soon discover that the addict is not psychotic. The psychological and sociologic workup will reveal that the patient has a limited education, is unemployed, and lives in a "culturally deprived neighborhood."

If the addict is sent to Prison, a similar process unfolds. The consultant psychiatrist, psychologist, and social workers soon discover findings similar to those of the State Hospital. If the addict is male, he may have been sent to the State Prison for robbery; if a female, for prostitution; in an attempt to obtain funds for this expensive habit. The addict's behavior in prison is good, so he is paroled early and returns to the same neighborhood and his addiction.

Should the Medical Profession be satisfied with this? Or should we attempt to modify what happens to the addict? Granted it may not be a large problem in terms of numbers, i.e. there are 50 to 100 heroin addicts in the state of Delaware. But if we expand this to the marijuana smokers, and the glue sniffers, and the Dexedrine users, and the LSD takers; we then have accumulated a group of several hundred patients. If present trends continue, this number will increase rather than decrease.

Dr. Vandervort is Associate, Internal Medicine, Wilmington Medical Center, Medical Director, State Department of Corrections.

The State Medical Society in conjunction with the Department of Medical Health and the Department of Corrections held a symposium on drug addiction. We were privileged to hear Dr. Marie E. Nyswander and Dr. Vincent Dole from the Rockefeller Institute describe their method of methadon substitution. We also heard a speaker from Synanon. Commissioner William Nardini of the State Correctional System and Commissioner Daniel Lieberman of the Mental Health Department are both interested in exploring some of the avenues suggested by the guest speakers. The following is one possible method of approach.

The accused addict would be brought before the appropriate judge. If criminal acts were involved, i.e. burglary, theft, robbery, assault, prostitution, the addict could be confined to the Correctional Institution or released on bail, to have a formal trial as would any individual. However, if the only offense be drug addiction, then instead of being sent to prison the judge could consult the Drug Control Board. This Board would consist of a member of the Department of Mental Health (preferably a psychiatrist), a member of the Department of Correction, a member of the Staff of Bissell Hospital, and a member of the State Medical Society.

The Drug Control Board would maintain files on all known addicts and accumulative files on new addicts. They would have at their disposal the case workers and

the professional staff of the previously mentioned institutions. The Board could thus decide whether an individual addict could be best treated in the State Hospital in primarily a psychiatric atmosphere. Or the State Prison where the concentration would be on rehabilitation of the uncooperative and unmanageable addict. The Board could consider a hospital facilities such as Bissell Hospital. Here the concentration would be on medical care, a hospital not a prison, environment and a trial methadon program under strict medical inpatient supervision. Appropriate patients still could be referred to Lexington, Kentucky, Federal Narcotics Hospital, as indicated.

Three Choices For The Judge

After consultation with the Board, the judge could give the addict an indeterminate sentence to any of these three institutions as suggested by the Control Board. When this Board felt the addict had reached a stable level, he could then be discharged to the outpatient facilities of the State Hospital or Bissell Hospital, or the Half-way House at 308 West Street. In this fashion he could be gradually returned to the community. When the professional staff felt the time appropriate, the addict could then be released from the Half-way House or outpatient facilities to the community. If the addict resumed his drugs, the process could be repeated. If there was a question that the addict was using narcotics, appropriate urine studies and physical examination would help to objectively determine this point.

This plan makes no claim to solve drug addiction nor is it revolutionary in any of its concepts. It does serve to give the judge in the state of Delaware several options. The treatment could better fit the individual patient rather than forcing the patient to fit the institution. Nor would this program necessarily cost any more money than the present program. It would, and this is an important point, serve to emphasize the medical, psychological, psychiatric, and sociologic aspects of treatment and minimize the punishment and prison bars aspect. Addicts who commit people with personality and psychological de-

crimes would still be treated in the State Prison. But addicts whose crime is against themselves, would be treated primarily as felts. This program would also permit research in drug addiction and encourage setting up pilot programs. In these various ways actual progress might be made in the treatment of drug addiction and drug addicts. Certainly the present methods are inept.

At a later time the problem of alcoholism could also be considered in a broader program. The alcoholic who works every day and has a good job is able to get medical and psychiatric aid if he desires it. The end-stage alcoholic or the derelict alcoholic, however, is not so fortunate. Once again his crime is against himself. He is destroying himself, but society only punishes rather than helps. Society characteristically ridicules and laughs at the derelict alcoholic, but he is indeed a tragic figure. This kind of person should bypass the court and when picked up by the police officer be taken directly to a medical environment. Here he could receive the immediate medical attention that he usually requires. As soon as this one to two weeks acute period is over, he then could be transferred to a rehabilitation environment or be employed on the prison farm. In these environments he would have the consultation of the professional staff and be handled as any mentally ill patient is handled.

The Patient's Return To The Community

When the patient is stabilized, he could once more return to the community through a half-way house arrangement. Once again we are emphasizing a medical environment as opposed to a punishment environment for mentally sick people.

Much progress must be made in this difficult field of rehabilitation of addicts and alcoholics. But let us have trial studies and research and let us use humanitarian methods in our present enlightened society.

When we look back on the way our mentally ill were treated 50 years ago, we now think this is absurd; but look how we treat this

(Continued on Page 186)

Reflections of a Country Doctor

PART III

ROBERT B. HOPKINS, M.D.

The Bedside Manner

Laugh and the world laughs with you; weep and you weep alone. Fortunate is the man who possesses a genial disposition. A certain amount of reserve and dignity is essential to the success of all vocations, but, combine with this the faculty of being pleasant and cheerful and you have a happy blending. He who is minus this quality should endeavor to possess it for while it may not be absolutely essential for success it is an important factor. Few people employ a cross, morose doctor. The sick room is the place into which, by your presence, you should seek to bring sunshine and hope. No one, be he even a physician, appreciates the visits of some sombre faced acquaintance — his very presence may seem a prognostication of evil. This may be said of some physicians. To inform your patient on some slight symptom or suspicion that you premeditate some grave surgical operation is a great mistake. Yes, thereby, unnecessarily increase his anxiety. But if such a state does absolutely exist, you should inform him in a way that is not precipitate but in a cool collected manner, explaining to him the necessity and the probable if not positive result of a cure. Gain his confidence and acquiescence. Then, oftentimes, the doctor's presence is more effectual than the medicine he administers. The mind must be treated as well as the body — not but what the brain is a part of the body, yet we all know that the condition of the body is dependent in a great measure on the condition of the brain. The intellec-

tual part of man must be treated as well as the physical. Every physician can recall in his experience instances when his patient needed to be treated mentally rather than physically.

On dark night in winter a doctor was called on urgent request to see a patient several miles in the country. The patient was one of those peculiar people rather of a hysterical disposition. The doctor was not feeling in the best of moods, yet he felt it his duty to go. The roads were bad and besides, before he could reach his destination the way led through a deep run, the water reaching nearly to the body of the carriage. However, he forded the stream and landed safely on the opposite bank. Two neighbors of the patient (jolly good fellows who always appreciate a joke provided it is not at their expense) preceded the doctor on his visit, and finding their neighbor in poor health suggested that he take a drink of apple brandy which they chanced to have with them. The effects of the stimulant and their jovial and interesting conversation acted like magic and when the doctor arrived upon the scene his patient was setting with them by the fire. There was little or nothing for the doctor to do in the case so he joined them in their conversation. Starting home he invited his friends to ride with him as they lived only a short distance down the road from the patient's home — so, all three getting in the carriage, they drove off. "Well doctor," one of them spoke, "This is a pretty bad case — three doctors to see a person one night—but I think you must admit that our medicine cured the patient before you arrived,

Dr. Hopkins was President of the Medical Society of Delaware, 1901-02.

and further I think we are entitled to part of the pay." "Well, gentlemen," the doctor replied, after a moment's reflection, "I must admit that your medicine in this case did the work. However, I am glad to find the patient no worse, but, if I had known you two doctors were here I should not have troubled myself to have taken this disagreeable ride."

Endeavor to detract your patient's mind from himself if he is not seriously sick by entering into an interesting conversation or relate some incident that is amusing and entertaining. Before you are ready to leave he will say, "Doctor I feel a great deal better now than before you came." An old gentleman who was a neurasthenic and at times hypochondriacal and who lived quite a distance in the country would often send for the doctor at promiscuous hours of the night. When the physician would arrive, the patient's complaints were multitudinous. He was either too hot or too cold. There was a pain in his head or an ache in his foot — sometimes both. The furies, could not seemingly from his description, have inflicted so multifarious and opposite extremes, but by detracting the man's attention from himself he would forget his aches and pains. The physician who is quick to perceive and administer to both body and mind meets with the best results. Fine discrimination here is necessary — too much medication in either direction may defeat your purposes and modify your prognosis. The verbose physician is an abomination and his presence grows to be monotonous. Cleanliness, Godliness, and let us add in connection another virtue, cheerfulness. If we try we may often conceal our fears beneath the veil of a cheerful face. He who is anything of a physagomist readily perceives by a person's countenance whether an impression made upon his mind is accepted favorably. We are all physagomists. Study your patient's face, but avoid the patient from studying yours unless you can so control its expression as to convey no unfavorable impression concerning your patient's illness.

*But stealing softly on the silent toe
Reach the sick chamber, ere you're heard below;
Whatever changes there may meet your eyes,*

*Let not your look proclaim the least surprise;
It's not your business by your face to show
All that your patient doesn't wish to know.
And last, not least; in each perplexing case,
Learn the sweet magic of a cheerful face,
Not always smiling — but at least serene;
When grief and anquish cloud the anxious scene*

*Each look, each movement, every word and tone,
Should tell the patient you are all his own,
Not the mere artist — purchased to attend —
But the warm, ready, self-forgetting friend,
Whose genial visit in itself combines
The best of tonics, cordials, anodynes.
Such is the visit that from day to day
Sheds o'er your chambers its benignant ray.*

Anonymous

We all possess or should possess a certain amount of interest in our neighbors' welfare — but with some it leads to inveterate inquisitiveness. No class of men in the world are plied with more questions than the Country Doctor. You do not wish to speak unkindly and are at your wit's end to devise answers to inquiries and oftentimes your patience and endurance are surely taxed. You have made an early morning visit and the first house you pass on your return, the occupant, recognizing your team, rushes out and inquires, doctor who is sick. You tell him in a polite manner and drive on. The next house you pass the same occurs, only perhaps they are a little more inquisitive and in addition want to know what is the trouble. The third house you try to elude and chirping to your horse endeavor to run the gauntlet. You scarcely pass when you hear a shrill voice calling doctor!! doctor!! You rein up thinking probably some accident has occurred when suddenly a woman pokes her face inside your carriage and asks who is sick? are they dangerous — will they recover and etcetera. A fellow practitioner who was annoyed by a person's inquisitiveness to such an extent that it grew to be vexatious — studied for some time how he might place a check on his curiosity. While riding by his farm one day, this happy idea came to him. The party was working at a distant end of the field. The doctor, stopping his horse, called in loud tones for the person. Hitching his horse to a tree the farmer strode leisurely over the plowed ground — getting

over the fence coming to the carriage asked "What do you want, doctor?" I only want to know, replied the doctor, whether that horse you are working belongs to you or not. What business is that to you queried the man; Nothing, said the doctor, only you seemed to be always interested in my affairs and never hesitate to stop me to inquire of something which is no business to you and I only thought I could pay you back in some of your own coin which you have been imposing on me for the last few years—that is all—and the doctor drove on.

What a great boon to humanity is sympathy. What would the world do without it. We all need sympathy. How it soothes our hearts to know that friends think of us in our absence; are interested in our welfare, and are even ready to extend a helping hand in time of need. There are two kinds of sympathy or at least two manifestations, one verbal the other real and tangible. The first is usually distributed gratuitously, the second is usually bought and oftentimes at a high price. There is an old lady known in the experience of a Country Doctor who is very sympathetic. She seldom misses a chance, provided the distance is not too far, to go and administer her solace. I heard she began—soon after entering the sick man's room—"that you were very sick and have been intending to come to see you for several days. I heard the doctor had little hopes of your recovery, so thought I had better come today, I was afraid you might die before Sunday. Casting a sorrowful look at the patient—my! but you look bad—you look so pale—I had no idea you had fallen off so much". Approaching the bed and stroking her hand over the man's face and talking in a subdued tone she asks "Don't you feel better now?" Keep up your spirits. I will try and come to see you tomorrow provided the weather is fair". The doctor followed the old lady out and not wishing to administer a rebuke in a harsh manner to one so many years his senior said "Madam the doctor has not given the patient up—and for this you should not approach a sick man in the manner you did. While your sympathy may be sincere yet sympathy framed in such lan-

guage is not very conducive to the patient's comfort or flattering to his recovery."

Visitors

Patients who are sick, more especially in the country than city, are often troubled with visitors. Some go in the spirit of true sympathy and are ready to render help—others for the sake of idle curiosity. An Old lady, the mother of a large family was stricken down with a long and tedious illness. Her daughters and sons came to see her each bringing with them their children. They so arranged it for them all to arrive on the same day. The old lady made the remark that "of course she was glad to have her children come to see her—and was always glad to see them go away."

An old gentleman was stricken with cerebral apoplexy. He was the father of six sons and four daughters. They were very much interested in their father's recovery and they all came to see him the same evening, the sons bringing with them their wives and the daughters their husbands, with as many more grandchildren. They came to stay and administer to his wants. The doctor called at the house at eleven o'clock the same night. The room presented the appearance of a dormitory rather than a sick chamber. The floor was strewn with sleeping forms to such an extent that it was difficult to move around without stepping on their prostrate bodies. A person who had no connection with the family, but who was a good sympathetic neighbor, sat by the sick man's side ready to administer to his wants. He and the patient were the only persons in the room who were not asleep. This picture brought to the imagination of the doctor the scene of the Saviour in the Garden when, looking on the prostrate forms of his disciples He said "the spirit is willing but the flesh is weak." The doctor suggested to the relatives of the patient that they arrange it so that one family come one night, another family another night and so divide the time that it would not be so laborious to them and intimated it would be better for the patient. At this they took offense—some never came to see him again until the day of his interment.

It is winter; the snow has been falling since early morning. How beautiful the snow. How softly and noiselessly it falls, coating the trees until they stand out against the dismal sky like white robed skeletons. How pleasant it is to sit by the fire and watch these infinitesimal messengers as they fall from the upper world covering the earth with a mantle of white. This may sound and look very pleasing to the casual observer provided he is not compelled to battle with these harbingers. Their weight when multiple is heavy, their impediments great, and their breath is icy cold. The country doctor realizes all this. It was on such a day that a messenger called the doctor to the bedside of his young wife. You could plainly read on his face the anxiety of his mind. The one whom he loved and on whom he had centered all his hopes and aspirations was expected to become a mother. Their home was neatly and tastefully furnished. You could plainly trace the imprints of a girlish hand in its arrangement. It was a quiet home where love reigned supreme—two starting on life's journey filled with hopes and bright anticipations. Time dragged its self along. Weary hours of the night were spent in dread expectation. A word now and again from the doctor in encouragement and kindly advice. The pulse which was strong and bounding relaxes. The patient is failing, but, under stimulants she revives and the case proceeds to a favorable termination. The doctor congratulates his young friends on the acquisition of a fine daughter. But how his heart sinks when she asks "Doctor what makes it seem so dark?" He glances at her. Her face is deathly pale. See! A crimson pool as it falls from the bed and winds its way across the floor. The pillow is snatched from beneath her head and the doctor endeavors to stay the flood. Flood? you ask — yes. If Niagara could have poured its contents on his heart and soul it could not have felt heavier. She cannot die; she must not die, he whispers to himself in determined accents. Oh God, he murmurs in a prayer, help me. She revives — can he believe it? Yes, she has opened her eyes and catching the anxiety in his own asks "Doctor is there any danger?" You endeavor to quell her fears by

saying you think the danger passed. The storm has spent its fury yet you dare not leave her side. She complains of pain — to her that conveys nothing, but to the doctor it signifies a world of meaning. A great burden is gradually lifted from his aching heart — the crimson flow has ceased.

A new life is borned to be the pleasure and joy of the home, yet how costly — and in after years, when the doctor meets the child almost a lady grown, his thoughts lead him back to that winter's night in the country when she made her advent into the world. There is no prettier picture than a young mother with her first babe as it nestles by her side.

FUNNY THING A BABY IS

*Funny thing a baby is,
With its little, wrinkled phiz;
Scarce a hair upon its head,
Mottled, purple, white and red
From its cunning, cherry nose
To its tiny, puckered toes —
Truly, very certain 'tis
Funny thing a baby is.
But the passing day will bring
Changes unto everything;
Nature no distinction shows,
And the baby daily grows.
Scanty hair is getting longer,
Little limbs becoming stronger,
Parents with their longing eyes
Watch its freaks in pleased surprise
"Coty gogen, da! da! da!
will it come to its ma or pa?"
'Tis no matter — that will quite
Depend upon its appetite —
Very- very certain 'tis
Funny thing a baby is.
Maybe it will come to pass
That the little, pudgy mass
Has a mighty mission here
On this tossed and troubled sphere.
If a boy perhaps 'twill be
Greater man than you or me.
Maybe to Congress sent,
Maybe make a President.
If a girl in beauty's field
She the sceptre yet may wield;
Wit and genius at her feet
Shall rehearse a story sweet,
Or the glamour of her eyes
Win for her a golden prize;
But the issue none can tell,
Be it ill or be it well;*

*Yet a truth most certain 'tis
Funny thing a baby is.*

—Chicago Mail

Youth; innocence — the climax of woman's existence; the source of a nation's wealth and power. Few women seem to realize this great fact or they would not look upon motherhood as they do at this advanced day when society interpretes it as a reproach rather than a blessing. What would this land be without its country houses? Washington, Lincoln, Garfield, and ever many today who hold positions of responsibility and trust and stand as pillars of State and wield their influence in their Councils of the Nation were boys borned and reared on the farm.

The snow has continued to fall and drifted in banks until the roads are almost impossible. Upon the doctor's arrival home the following morning a message is waiting that he is needed in the country. This news is imparted as soon as he enters. "What!", he exclaims, "Surely I cannot go today. I am almost exhausted and further it would be almost impossible to reach his home through this driving snow". Yes, they left word for you to come today, his informant adds, as he is very sick. True, you reflect, he is a good patient; always pays his bills promptly; if I attend his family during the sunshine I must give him my services during the storm. With a great deal of argument and persuasion to himself the doctor concludes to face the elements. You have not proceeded far when you encounter an insurmountable snow drift. You alight, take down a section of fence, and finally reach the road again. One obstacle overcome — I wonder how far I can go before I encounter another. You are sadly disappointed when not having advanced a mile you are to pass through a small ravine and as your eye penetrates the distance you discover that it is completely filled with drifting snow. You cannot make a circuitous route now, the way leads direct and there is no other road. It is impossible to drive your horse through it. What must be done? You alight — kick the snow right and left until you make a narrow path and lead your horse through. After three or four hours of hard work you reach your

destination. You are soon informed by the good hostess that they had waited so long for you that they had concluded to send for another physician — he had come, administered a remedy and the patient was better.

Honesty and the Physician's Finances

Every young physician as he starts out in the business world imagines the people just as honest as himself. We admit this is a favorable light in which to look at a community. The community would say harsh things if you thought otherwise. Human nature is the same the world over and the proper study of mankind is man—morally, socially, intellectually, lastly but not least, financially. The physician should be a good business as well as a professional man.

The Forgotten Fee

People seem to forget that physicians are constituted as other men; that they must eat, sleep and be clothed and meet their expenses as other individuals. We are led to believe they have a weird conception that doctors can live on expectations and promises—especially Country Doctors. Of course, they inhale largely of pure fresh air as most of their time they are out of doors. This is very exhilarating, especially when the mercury stands at zero and you have a ride of six or eight miles facing a strong north wind. Water is very plentiful and easy of access, but, while these things are necessary for our existence we need something in addition—more substantial—we actually eat as other people; must be clothed, often shabbily we are sorry to admit, and occasionally need money to pay our honest debts. The doctor's bill is a subject that interests the doctor a great deal more than it does the patient—some patients—thank heavens. We reflect there are some honest people in the world, if not the doctor's life would be one of absolute financial failure and he would be compelled to abandon his work and seek some other vocation whereby he could gain a subsistence. Without doubt the Country Doctor is the poorest paid (according to the services rendered) of any professional man.

After the young doctor has toiled and la-

bored assiduously for three or four years he begins to realize that he needs something more tangible than good wishes and promissory notes. Under some financial strain he endeavors to collect a few delinquent bills. He writes a letter to a former patient and explains his need of financial help—and intimates that he would confer a favor by settling a small bill you have against him. True he is not a man of wealth yet he lives on a good farm and in easy circumstances. You wait long and patiently for a reply, but none comes. You address another letter explaining that your creditors are becoming impatient and urge upon him the exigency of an early settlement. The long looked for reply does not materialize—neither does the money. Your patience is nearly exhausted and so is your purse. You place the bill in the hands of the law. On one of your visits in the country you chance to meet your debtor. He is very indignant that you should force your claim. The bill is honest and just he admits, yet he has been so busy that he has not had the time to give it his attention. He requests you to talk with the collector and tell him he will settle the bill soon, probably next Saturday. Why Saturday should be a favorite day to settle a bill we are at a loss to know. We never knew but one man in our experience who, promising to settle a bill on that day, met his obligation. The appointed day arrives, but the debtor does not. You have fully made up your mind to have this bill collected. You have expended money from your own pocket to be applied to the alleviation and comfort of this patient and it is but right you should receive your pay and further you are now convinced that the party in question evidently is endeavoring to elude paying this honest debt and you instruct your collector to proceed. In the meantime your debtor who is a tenant makes over (as it is termed by process of law) his personal property to his landlord. In a few days you receive a letter from a very respectable gentleman, it is true—saying:

Dear Sir:

Now I wish to say to you that the goods and chattels on the farm where

Mr. J. lives belongs to me and suppose you do not wish to sell my property to pay his debts. Hoping this is satisfactory, I remain

Yours truly

The result of the preceding is you are compelled to settle with the squire and constable for their services and in the sum total you pay a bill you have contracted of ten dollars endeavoring to collect by law a small fee of five. Your debtor laughs in his sleeve and the next time he meets you says—"Doctor you may be a good physican but you make a very poor lawyer."

Trusting The Patient's Good Will

Being defeated in this line in the acquisition of finances you resolve to abandon the law entirely and trust to the good will and honesty of your patients. Possibly you are a married man and are in need of things for your table; probably you are single and there is a mutual agreement between you and your boarding mistress that any little acquisition such as potatoes, chickens or butter you may succeed in gathering in your daily visits from your country patients will be gladly received in lieu of money to the liquidation of your board bill. This you say is a very economical way to look at matters. You thank her for such a kind suggestion as both parties will be mutually benefitted and, of course, it will afford an easy means to your patient to render unto Caesar the things that are Caesar's. On your next visit to the country you endeavor to put the suggestion into operation. You stop at a farm house in which during the past few years you have spent several anxious hours in attending its inmates. You mention to the farmer that he is owing you a small bill and ask if you could not buy from him a few potatoes. "Well," he replies, "potatoes did not do anything this year and we shall not have enough to last ourselves until spring. I hardly see how I can let you have any." Being defeated on the first attack you recover and advance again. Well you could let me have a chicken. "Now the chickens belong to my wife. I never disturb any of her things." Your voice falters as you make the

suggestion that probably he could spare you a pound of butter. "We make very little butter; the pasture has been poor this summer and besides my daughters attend to that part of the business and it takes about all we get from the source to buy a new dress now and again." Looking the man in the face you ask "Do you own anything about this place"—chirp to your horse and drive on.

A man from the country calls at your office and says "Doctor, Mother would like you to go and see her." This mother of his is an old lady of eighty winters—she is decrepit, her vitality is low—old age has undermined her constitution and in a few more days she will totter and fall into her last resting place the grave. The doctor knows this, yet he does not withhold his hand. Perhaps he can smooth the pillow for the aching brow, or administer a cordial to soothe the tired and worn frame. He counts his time and expense as nothing provided he can give relief. The days pass by and with them finally your patient. They have lain her to rest, a fond, devoted, sacrificing mother. Months have elapsed before you present your bill. One day you chance to meet your messenger and he informs you he received your note but has nothing to pay you; mother was very poor and after selling what few articles she possessed and paying the undertaker there was nothing left. He thought he ought not to pay the bill as your services were not solicited at his request. You drive on, absorbed in your own reflections. Not long after you meet with the same individual again. His conscience has not rested easy over the matter and he says "Doctor if you think I owe you that bill for attending mother I will pay it." The doctor cogitating replies "My dear sir if you have not the moral courage to pay the bill I do not insist on it"—and so the bill goes unpaid. Your opinion of human nature is somewhat shattered, yet we would not have the reader think that all the country doctors' patients are of such a cast or disposition. There are some poor people who are honest. Dishonesty is not confined exclusively to the poor—Heaven forbid! We have a patient who has a real palpitating heart. He is poor but honest. This patient is always grateful; gen-

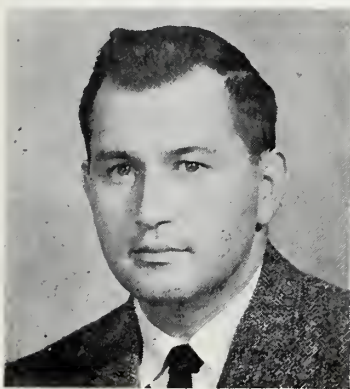
erous so far as he is able. No article in his house or on his farm, if you need, but is at your disposal. He has even gone so far in his generosity as to offer me one of his children, (as he had several). While we admire the man's frankness and good intentions we hardly felt competent to the task or willing to assume the responsibility of rearing one of his progeny. How gratifying it would be to physicians and country doctors in particular to have an income independent of their daily earnings, sufficient to meet their exigencies. To know that you would not be compelled to dun a delinquent patient and to disturb the serenity of your mind in exacting such a sum to the liquidation of your own debts. What a grand idea I muse could the Government realize the country doctors destitution and place an endowment at his disposal. I hear we have gained some recognition in Washington in regard to establishing a national health department—probably after ages the nation will awaken to realize our importance—then the millenium would dawn. Of course the country doctor is expected to be generous and charitable. When a subscription is started in the town or country for some benevolent purpose his name is expected to be on the list and he is mean and penurious if he does not contribute with a liberal hand. He makes his money easy, of course. People forget that every day in the year the physician is contributing to the poor and destitute by his services, his time and money and distributes his deeds of charity gratuitously in a thousand ways unknown to the world.

Today you receive payment on a bill—tomorrow you expend to buy medicine to be administered to a patient from whom you receive no remuneration, and it is not at all surprising that the country doctor remains poor. We have never met with a country doctor who has become rich from the practice of medicine alone. You are sympathetic, you are liberal so far as your finances will allow, and have gone so far as to buy the things necessary for your patient's subsistence. You do not expect to reap any reward, but, do it simply for humanity's sake. Yet the world knows nothing of this, neither does it care.

Continued in the July Issue

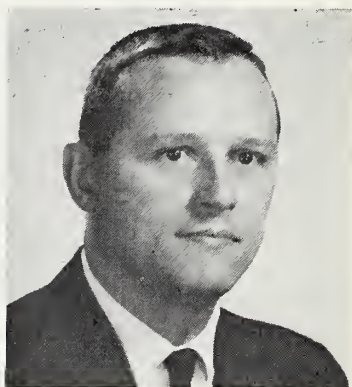
New Members

Henry R. Cowell, M.D., University of Pennsylvania School of Medicine, '58, is recently out of the Navy. He obtained his Delaware license in 1959 after intern-ing and completing his residency at the Delaware Hos-pital. Specialty: Orthopedic Surgery; Office: A. I. duPont Institute. The Cowells have two daughters, Cynthia, 8, and Mary Jane, 6, and enjoy camping and canoeing as a family.



William T. Lloyd, M.D., University of Maryland Medical School, '56, obtained his Delaware license in 1962. He was in private practice two years before he served in the Army — also two years. Specialty: Pediatrics; Office: 327 Main Street, Newark, Delaware. Dr. Lloyd likes photography as a hobby, has three small daughters and admits he also likes “lolling in the sun.”

Robert E. Erb, M.D., Temple University School of Medicine, '60, obtained his Delaware license in 1965. Specialty: Anesthesiology; Office: Delaware Division of the Wilmington Medical Center. Dr. Erb is a sports enthusiast—golf is his favorite—and he is also a “Phillie fan.” Domestic pets are popular in the house-hold, which includes three small children.

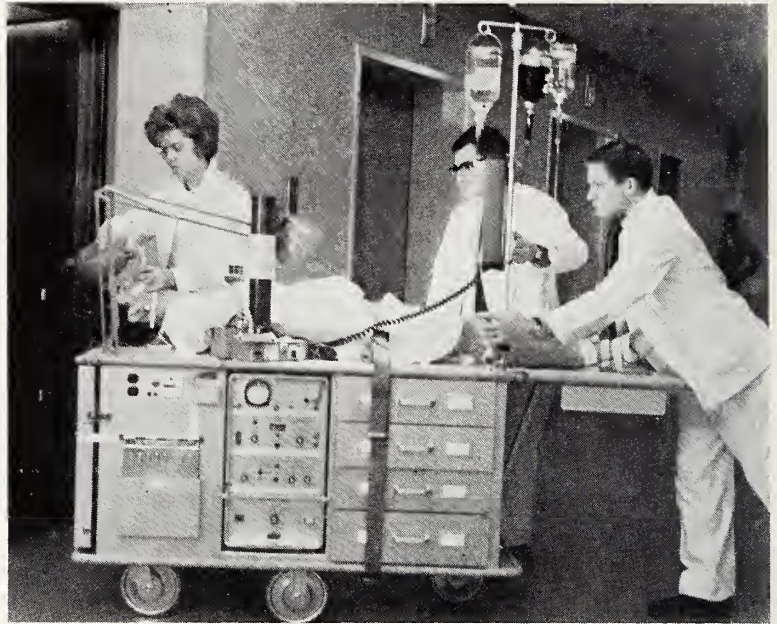


Philip R. Walker, M.D., is a Canadian, University of Alberta, '58, and has lived in this country 10 months. Specialty: Anesthesiology; Office: Delaware Division, Wilmington Medical Center; Delaware license: 1965. The Walkers have four children—all pre-eschoolers and Mrs. Walker is a nurse. Dr. Walker is an ardent fisher-man and a golfer in his “off” hours.

MOBILE EMERGENCY LIFE SUPPORT AND RESUSCITATION SYSTEM

OLIVER W. BROWN, JR.

While receiving emergency treatment for cardiac arrest, patient is shown in simulated scene at Pennsylvania Hospital, Philadelphia, being wheeled on life support system, nicknamed MAX, into elevator for continuation of treatment elsewhere.



A unique cardio-pulmonary resuscitation and emergency life support vehicle has been applied clinically in over eighty-five cases of cardiac arrest during the past year at Pennsylvania Hospital in Philadelphia.

With the new unit, rather than surrounding the patient with cumbersome equipment, the patient is placed on the vehicle's litter surface to become part of a man-machine system. The relationship of equipment and emergency team to the patient is such that it takes three or four persons only 20 to 30 seconds to:

1. apply effective oxygen supplemented ventilation
2. apply and adjust a pneumatically powered external cardiac compressor
3. visualize an EXG trace on the cardioscope
4. Begin a venous cutdown for intravenous fluids

A conventional cart requires a team of six to eight persons three to five minutes to ac-

complish the same critical procedures.

Designed for many functions, the vehicle serves the smaller hospital as a mobile intensive care unit, a specialized emergency room vehicle, a coronary care and cardioversion center, and a litter to sustain the acutely ill and injured in transit to an operating room. For the larger institution, it may play a primary role in kidney transplants and in the not-so-distant future will provide the subsystem to resuscitate, sustain and transport a dying patient to the operating room to receive an artificial heart.

Nicknamed MAX, the vehicle may also be activated electronically by a newly developed Hospital Emergency Command System which provides simultaneous and automatic mobilization of equipment, personnel and elevators. An elapsed time meter, monitoring scope and data acquisition recorder begin to operate at the time of the alert. MAX is rushed to the patient's bedside. As the four team members arrive, the patient is quickly transferred to the electrically isolated litter surface. The

Continued on Page 184

Mr. Brown is News Relations Associate for Smith, Kline & French Laboratories.

QUESTIONS AND ANSWERS

with Grant Swinger*

The Light Touch! (Ed.)

(News and Comment presents another interview with Grant Swinger, director of the Breakthrough Institute (*Science*, 1, 1965) and chairman of the Board of the newly organized Center for the Absorption of Federal Funds.)

Q. Dr. Swinger, what is the Center for the Absorption of Federal Funds?

A. It is an organization, created by a consortium of several institutions, for the purpose of surveying preliminary steps toward a fresh look at some of the more vexing problems of research, education, and society.

Q. What are some examples of its work?

A. I'll be happy to tell you, but first I think it should be understood that the Center does not take any problem to the closure mode.

Q. The closure mode?

A. Yes, that is, we don't finalize any problems. We confine ourselves to pioneering in developing new approaches. We tend to be technique oriented.

Q. Specifically, what are some examples of the Center's work?

A. Well, the Center staff members have resolved the conflict between teaching and research.

Q. How?

A. By doing neither.

Q. I see. Then what do they do?

A. They confer, they comment on each other's past papers, they travel a good deal. There is no shortage of activity. In fact the pace is cruel. It is just that our people don't want to get into the classic dilemma of having to choose between the classroom and the laboratory or library.

Q. What else does the Center do?

A. Well, it is doing some preliminary work

toward the development of new programs, procedures, and goals for our member institutions.

Q. Such as?

A. We are investigating the establishment of a new undergraduate program, to be known as Junior Year on Campus.

Q. I see.

A. In addition, we are looking into the possibility of new sources of support. For example, there is the *Pan-American Chair*.

Q. In Latin-American studies?

A. Oh, no, this is actually a chair on a Pan-American airplane. It would be set aside for traveling members of the Center and the associated institutions.

Q. Yes.

A. And we are also looking into the establishment of the first \$1-million chair at any university.

Q. A million-dollar endowment?

A. No, a million-dollar salary, and that would be for 9 months. The resulting publicity and prestige for an institution with such a chair would be simply fantastic.

Q. The salary would cover only 9 months?

A. Yes, to provide opportunities for consulting and travel in the summer months. Furthermore, our preliminary investigations suggest that, to maximize the prestige, the recipient should have neither teaching nor research duties, and in fact should rarely, possibly never, be on campus.

Q. What are some of the other services performed by the Center?

A. Because many universities are experiencing difficulty in filling administrative positions, we have established a *Rent-a-Dean service*.

Q. Rent-a-Dean?

A. Yes, we will provide a dean for a flat

*Reprinted with permission from the March 11th issue of *Science*, Vol. 151, pp 1201, published by the American Association for the Advancement of Science, Washington, D. C., Copyright, 1966.

daily charge, plus so much for each decision he renders. The advantage to the university, of course, is that it does not have to make a permanent commitment and may return the dean at any time, which, in effect, is what now goes on anyway with many major appointments.

Q. I see.

A. We also have an assortment of related services, such as Rent-a-Fellow, if an institution is unable to fill the fellowships that it has available.

Q. Are there other activities of the Center?

A. Yes, for example, we are devising new types of tests and examinations. The most promising development so far is one in which the student is furnished with, let's say, 25 footnotes, and is required to write a paper incorporating them in the given order.

Q. Are there other activities of the Center?

A. Yes, we are looking into the creation of a new academic title to reflect some of the realities of modern-day education and research. We have tentatively decided upon the title post-doctoral emeritus. Finally, we do a great deal of international consulting. For example, I will be leaving for Africa in the morning for a conference on Space, the Atom,

Particle Physics, and the Emerging Tribe.

Q. How long will you stay?

A. Oh, it's just for the afternoon. I have to be in L. A. the next day for an international conference that will be attended by about 200 persons.

Q. On what subject?

A. As far as I know, a topic has not yet been selected.

Q. Dr. Swinger, this may be a delicate matter, but how can these activities be justified to the public authorities?

A. Oh, I think that an examination of the historical record shows that we are well over that hump. But the advice of our Committee on Research and Publications is that, if questions arise, they usually can be settled with a few brief references to hybrid corn, penicillin, atomic energy, and serendipity. Really not a problem.

Q. What future do you see for the Center?

A. Quite obviously it can only grow bigger. We have adopted the motto, "*As Long As You're Up Get Me a Grant.*" I think we can only grow.

Q. Thank you, Dr. Swinger.

—D. S. GREENBERG

MOBILE EMERGENCY LIFE SUPPORT AND RESUSCITATION SYSTEM

Continued on Page 182

respirator, pneumatically powered external cardiac compressor and EXG needle electrodes are applied simultaneously and the patient's heart trace is immediately visible on the already operating cardiograph. A surgical cut-down on a vein to provide a route for intravenous drugs and endotracheal intubation to assure an open airway immediately follow.

The defibrillator may be used to electrically shock a fibrillating heart into a normal rhythm or a pacemaker may provide periodic impulses to stimulate a heart beat.

Drugs, surgical instruments and other equipment are stored in compartmentalized drawers and cabinets which, once opened, cannot be closed without a special control key. This provides an effective check and inventory

system to insure that MAX is always fully replenished with fresh drugs and instruments.

Self-contained oxygen and electric power permit the respirator, external cardiac compressor, cardiograph and other equipment to sustain the patient while he is moved to an intensive care unit for post resuscitation care or to an operating room for emergency surgery. During surgery MAX continues to support and monitor the patient who remains on the unit which also serves as the operating table.

MAX's data acquisition system automatically records the emergency team's orders and activities and physiologic data (EXG, EEG, pulse pressure), from the patient. These records provide information for evaluation of techniques and research in resuscitation physiology and emergency care organization.

The system was designed by Joel J. Nobel, a Fellow in Surgery at Pennsylvania Hospital.



**First aid for a
button popper**



**Second aid for a
button popper**

Bamadex[®] Sequels[®]

d-amphetamine sulfate (15 mg.)
and meprobamate (300 mg.)

Sustained Release Capsules

By providing combined anorexigenic-tranquilizing action, BAMADEX SEQUELS Capsules help your nonshrinking patients to establish new patterns of eating less. The amphetamine component suppresses the appetite, while the meprobamate helps allay nervousness and tension. And for most patients, the *sustained* release of the active ingredients makes possible convenient one-capsule-a-day dosage.

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6655



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



THE FREE CHOICE CONCEPT

The professions of medicine and pharmacy over the years of growth have established their foundations on firm principles. One of these principles has been the "free choice" concept, which was of grave concern to both professions during the years of legislative discussion which finally crystallized in medical care programs under the Social Security Act.

The leaders of both professions and most of its practitioners have insisted that the American people should have freedom of choice in determining which physician or pharmacist they desire to provide health services. This basic thought has carried itself over into the Delaware Department of Public Welfare and the programs offered by them have been instituted and carried out with great success.

The question then arises why do certain members of both professions ignore the guide lines of practice? Why are they interested in a position which digests at the foundation of *American free enterprise*? When a pharmacist has prepared for a physician prescription blanks with the pharmacist's name clearly imprinted, it is an act directly contrary to our individual codes. The pharmacist is in error for printing the blanks in this manner, and the physician is in error for accepting and utilizing them. This act only encourages the cynic who espouses the collusion of health professions. Even worse, is the ignorant patient who does not realize that he has freedom of choice in having his prescription dispensed.

I would be remiss if mention were not made of the use of a pharmacist as one would utilize the experience of a consulting physi-

cian. There are often times, when a physician is cognizant that a certain prescription can only be dispensed by one or two pharmacists in a community. In these instances the physician has the duty to refer the patient to insure the proper complement of his diagnoses. These circumstances differ greatly from the previously described facts and should not be confused by the patient, physician, and pharmacists.

In times where we desire to provide our communities with the best possible health service, free from any taint, it behooves each of us to re-examine our practices to insure and promote "freedom of choice" as a basic condition in rendering these services.

Drugs Listed Under Drug Abuse Amendments

On May 17, 1966 additional medicinals were covered by Food and Drug Administration under Drug Abuse Amendments. The following medications were to have been inventoried and complete records as to purchase and disposition are to be maintained by both the pharmacist and physician (if he dispenses them):

<i>Placidyl</i>	<i>Chloral Hydrate</i>
<i>Noludar</i>	<i>Paraldehyde</i>
<i>Valmid</i>	<i>Doriden</i>
	<i>Methamphetamine</i>

The following three medicaments were also to be covered. However, requests for a hearing on them have been received by Food and Drug Administration and until the results of hearings are made known, the following will not be covered under the act:

Meprobamate
Valium
Librium

Editorials

SCALENUS SYNDROME

The various symptoms coming from the scalenus syndrome have long been recognized as something to be contended with in the differential diagnosis of chest pain. Prior to the development of a set of exercises at the Mayo Clinic for the treatment of this condition, surgical intervention or having the patient walk the streets carrying a fifteen pound weight in each hand were the only two modes of treatment. More important, however, was the number of people in whom a mis-diagnosis of coronary artery disease lead to crippling iatrogenic heart disease.

In the Journal of the American Medical Association for May 23, 1966, Winsor and Brow write about a first cousin of the scalenus syndrome, the costoclavicular syndrome. In outlining a standard set of maneuvers to be used in successful diagnosis of this condition, they have also opened the door for treatment.

In either of these conditions, one of the most important things is early and accurate diagnosis before the patient has time to have fixed in his mind the thought that he may have organic heart disease.

THE GOOD OLD DAYS

The passing on March 31, 1966 of Doctor Samuel A. Levine marks to some old timers the ending of an era in medicine. While Doctor Levine was not alone in working his way through college and medical school, he certainly was a distinguished example of the results of our system of free enterprize and the theory that hard work hurts no one. After graduating from the Schools of Boston, Doctor Levine worked his way through Harvard with the aid of a School Boys scholarship.

Doctor Levine was one of the masters of bedside teaching. He was merciless to the house officer who dared present a case at rounds without that case being properly worked up. Needless to say, the house officer never repeated such a performance and, after

all, this can be the basis of good teaching. He brought with him to the bedside a storehouse of knowledge. His book "Clinical Heart Disease" has been a standard text book through several generations of physicians.

In 1954 his alma mater, Harvard, established in his honor a chair in medicine and in 1958 he became professor emeritus.

A "doctor's doctor," he entered medical teaching at a time when a man was judged by his clinical ability rather than the number of grants he could wheedle from Washington.

He never will be forgotten by his students.

LINES BY A BORE

* A bore is one who, when you ask him, "How are you?", tells you . . .

From the lungs with emphysuma
To the toes with athlete's foot,
I have seventeen diseases
And I'll tell you where they're put.

I have ostehiparthrititis
And I walk with halting feet;
I have chronical bronchitis
And my cough cannot be beat.

All my muscles are decaying
And I cannot climb a steeple,
I have cardiacal tremors,
And I can't stand crowds of people.

I have cholecysteritis
My gall bladder's full of rust,
And umbilical hernitis—
My old belly button's bust.

Alopecia circumpolar—
That's a bald spot on the head;
Almost total exodontia—
That means twenty teeth are dead.

I've a twisted nasal septum
And my arteries are weak;
If I walk a half a furlong
All my joints begin to creak.

* Menken, *Dictionary of Quotations*

NEUROLOGICAL SYNDROMES PRODUCED BY SPHENOID SINUS ABSCESS*

ABSTRACT

DEWEY A. NELSON, M.D.
WILLIAM J. HOLLOWAY, M.D.
SAVA C. KARA-ENEFF, M.D.

The sphenoid sinus, due to its small size and difficulty of examination can easily be overlooked as site of origin of central nervous system infection. It has been found to be infected in 13% and 22% of cadavers by two different workers. Meningitis is the most common reported complication, and pituitary necrosis is the second most commonly reported complication.

One patient was admitted with signs of a URI and with a mildly stiff neck. She was found to have 293 WBC in the CSF. Cultures of the nasopharynx and spinal fluid revealed no pathogens. She had clouding of sinus on x-ray. A variety of antibiotics were used over the next two months, with improvement, but with deterioration when the antibiotics were withdrawn. She became hypo-

tensive, and developed right-sided seizures. An exploration of the left frontal lobe was negative, and she died after surgery. Autopsy revealed several cc of pus in both sides of the sphenoid sinus, and necrosis of the pituitary due to abscess formation.

Another ten year old patient was admitted with proptosis, chemosis and extra-ocular palsy. There was drainage of purulent material from one eye. The sinuses were cloudy on x-ray. Surgical drainage of the sphenoid sinus resulted in a rapid cure.

Cavernous sinus thrombosis and orbital apex syndrome can also occur from sphenoid sinus abscess. Headache, fever, recent respiratory infection, post-nasal discharge, x-ray clouding of the sphenoid sinus and elevated WBC and protein in the CSF should strongly suggest a sphenoid sinus abscess.

*This paper was presented at the March meeting of the Philadelphia Neurological Society.

On the walls of my intestines
Are some di-ver-tic-u-lie;
I suppose they're doing damage,
But I still refuse to die.

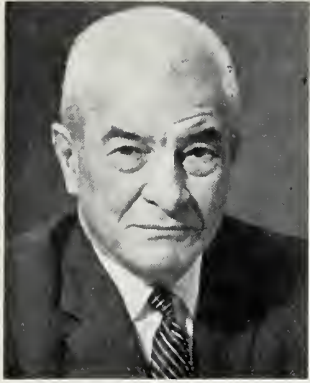
And, in spite of all diseases
There are times when I feel frisky;
It is then the prospect pleases
And I take a *Double Whisky!*

The above poem with features reminiscent of Holmes' "Stethoscope" and Irving's "Ballad of Chambers Street" was written by a distinguished member of the Judiciary who wishes to remain anonymous. —Ed.

DRUG ADDICTION IN DELAWARE

(Continued from Page 173)

group of offenders today. Is this too, not absurd? Is the level of civilization of a society judged by the way it treats the least in that society? Let us not try to hide these failures behind walls. Nor think we have solved the problem when these patients are put behind walls. But let us seek out these sick people and go to their aid and help them solve their problems. This is the only way I can see progress. It is a humanitarian way of which we could be proud.



President's Page

AREA PLANNING

The Committee on Utilization of Facilities of the Medical Society of Delaware included Area Planning in its recommendations. In conjunction with the Association of Delaware Hospitals, a meeting to organize a program was arranged May 26, 1966.

Question: Is the trend not on a broad urban basis?

Answer: Such broad planning has not been able to dig deeply enough into the health problem. You need more than a bed to lie on; you need a doctor.

The question was asked by a well-known educator at an organization meeting on area planning. It was answered by C. Rufus Rorem, Ph.D., Executive Director, Hospital Review and Planning Council of Southern New York.

Dr. Rorem speaks from long experience in planning. Time available, no doubt, Dr. Rorem would have given a more complete answer. He might have discussed what the doctor needs after he and the patient meet at the hospital. If it is to be a good hospital, the community must have not only the money to build, but to operate what is built, the personnel to meet the demands of modern specialties with exacting standards, provide continuing education for these various persons including the doctor if the hospital is to keep abreast of rapidly moving, present-day developments; and, either in the hospital or the community, sufficient reserves to provide for expansion.

Every general hospital in Delaware has increased in size at least once in recent years. These building programs may or may not have been farsighted. Hospital construction depends upon many things. Too often, we have built upon past practices, rather than

upon the improvements the past has set in motion.

It is true that when the patient arrives he must have a doctor; but how is this to be accomplished? Population trends being what they are, where will the doctor be? Where will the hospital be? In towns like Wilmington, Newark (excluding annexation), Dover, Lewes, population is either declining or increasing negligibly compared to the population increase in areas surrounding the towns. In each county, the population center is shifting. In some parts of the state, the population trend may be in the direction of a neighboring state offering approved hospital facilities more accessible for patient and doctor than suitable facilities in Delaware.

Population, location of industry, trend of economy, relationship of doctor to hospital, changing attitude of public toward doctor and hospital, institutional response to medicare and other provisions of the Social Security Act of 1965, progress of medicine, increased third party payment for office and home visits, these and many other factors are changing the patterns of medical practice, rubbing out old boundaries.

Question: Is the trend not on a broad urban basis?

Answer: Perhaps. But what is urban?

A. M. Schret

Auxiliary Affairs

IS THE PRICE RIGHT?

It costs too much to be sick. Whenever you have to pay for something you don't want, the price is too high. And who wants to be sick?

Why not bring up the subject at the next party — if someone doesn't beat you to it — for the cost of being sick is likely to be the No. 1 topic of conversation. Everyone joins in with such statements as: "Doctors charge too much." "There ought to be a law to prevent druggists from charging such prices for pills they take out of a bottle on the shelf." "It costs more to stay in a bare little room in a hospital than it does for an ocean-front room in a Miami Beach Hotel — and as for the food . . ."

Your first inclination will be to come to the defense of the medical profession with a careful explanation of physicians' fees, hospital and drug costs. Don't. You know, as a doctor's wife, about the long and expensive education of the physician; you know the cost of precise and expensive equipment used in doctor's offices and hospitals; you know about expensive research. *But* you meet very few cost accountants at parties.

Refreshments served at most parties sharpen the tongue rather than the intellect. You can end up feeling pretty foolish if you try to explain the great medical advances which have saved lives, improved health and have had a marked effect on the nation's economy in the past 25 years. You would like to point out that today, illness is of shorter duration, stays in the hospital have been shortened and time lost from work is less than 25 years ago. (You know these are important socio-economic factors. Better save this information for another time.)

All too often people tend to regard medical costs as a matter completely apart from laws

governing a free economy. We need to point out that the people who provide the medical services have to earn a living and support their families. The doctor must be able to earn enough to pay the TV repairman his \$10 house call fee. By price comparison you may be able to get this message across. Tactfully, of course. Mrs. G. has the attention of everyone. "I had the most dreadful headache for a week," she says. "I finally went to the doctor. He flashed a light in my eyes, took my blood pressure, looked in my ears, asked a few questions — and then said there was nothing wrong with me that a few aspirins wouldn't help. I paid five dollars to find out I should take aspirin for a headache."

You would like to explain that the doctor had ruled out possible brain tumor, high blood pressure and beginning stroke, along with other serious possibilities. You can instead join the conversation with "I always find that a visit to my hairdresser helps my head. Little Miss Vera is awfully good. She didn't even finish high school, but she really knows how to do my hair. She charges five dollars, but it's worth it. At least my head always *looks* better."

You have made two points. First, it costs as much to go to a young girl with limited education as to a physician. More important, it is obvious that such a person is not the one to consult for even a headache. People do not complain about the millions of dollars spent for cosmetics and beauty aids because they want these services.

You could also add "For the price of two visits to the doctor you could have bought a bottle of good Scotch. That has been known to do something for a headache." Such a remark does away with the need to explain that

Continued on Page 192

In Brief

Mental Health Has Major Reorganization

There will be more flexible use of Federal funds in support of all parts of the new national mental health program, according to the National Institute of Mental Health. These new administrative structures will be established: 1) four specialized program operations for the study of alcoholism, narcotics and drugs abuse, suicide prevention and metropolitan mental health problems; 2) four centers to coordinate all Institute activities for the study of schizophrenia; mental health social problems (such as automation, divorce, sex deviation, poverty, race relations, leisure time); mental health in children and youth; and crime and delinquency. 3) two model community mental health centers: one focused around a general hospital, the other based on a large state mental hospital. 4) five Associate Directorships to administer Institute activities in the area of: Extramural research, manpower and training, mental health service, and field investigations. Grants will be available to community mental health centers which qualify for Federal aid. The first year's funds will be available to communities whose applications are approved before June 30, 1966.

Speakers On "Doctor's House Call"

Speakers on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: July 7: Robert L. Dewees, M.D., *Heat Exhaustion*; July 12: Marvin H. Dorph, M.D., *Emergency Call Systems* July 19: Ronald C. Corbalis, M.D., *Arterial Surgery*; July 26: I. Favel Chavin, M.D., *Fractures*.

Ulcer Book Rings A Bell

Gerard S. Serino, M.D., whose recent book, *Your Ulcer, Control, Prevention and Cure*, (Lippincott), has been riding the top of the reading list in the Wilmington area, reports that book sales totalled 4,000 copies sold the first five weeks. He is now busy at work on his second and third books. Dr. Serino has addressed most of the service clubs in Wilmington, (Kiwanis, Lions, Optimist, Rotary, etc.) and has arranged to address groups of high school students. Recently, he spoke on the subject of ulcers in a two-hour program on the *Ed Harvey Show* and in the near future expects to be scheduled for a program on NBC, New York.

New Chemical In Brain Studies

Scientists have long felt that behavior is influenced by two brain amines, serotonin and norepinephrine. The relative importance of each has been baffling because it has seldom been possible to reduce the amounts of one without the other. Now an experimental compound, p-chlorophenylalanine may help unravel their roles. It offers an opportunity to reduce concentrations of serotonin in the brain to extremely low levels without significantly affecting norepinephrine. Researchers will now have a tool with which to determine the role played by each of these brain chemicals and to investigate the behavioral effects caused by abnormal functioning of either one. Experiments that have been made suggest that p-chlorophenylalanine acts by inhibiting the synthesis of serotonin at an important step in its manufacture by the body. It raises the question of why serotonin is normally present in the brain if its absence does not cause pronounced effects. *Pfizer News*

Out-Patient Services Committee Program

The next four meetings of the Wilmington Medical Center's Committee for Out-patient Services are listed below. The Committee meets weekly at 9:30 a.m., Library annex—Nurses' Residence, Delaware Division. Everyone is invited to offer information and to attend any session.

Date	Topic
July 13, 1966	13. Medical Out-Patient Services III A. Subspecialty clinics (continued) 8. Screening 9. Gastroenterology 10. Hematology 11. Metabolic 12. Neurology 13. Myelin Diseases 14. Pyelonephritis
July 20, 1966	14. Administrative Meeting
July 27, 1966	15. No Meeting
August 3, 1966	15. Surgical Out-Patient Services I A. Clinic B. Miscellaneous Procedures C. Overlapping Community Services

New Form For Medicare

A single, easy-to-fill-out form for patient and physicians to use in requesting payment under the Medicare program has been developed by S.S.A. in cooperation with the AMA's Council on Medical Services. The "Request for Payment" form will be used for claims under the Part B (doctor bill) section of the Medicare program.

The same form can be used for either of the two ways to claim payment for medical services. Under one method, the doctor will bill the patient, and after the patient has paid the bill, the patient will claim reimbursement. The patient will fill in the top half of the form and attach the doctor's itemized receipted bill. He will need to ask the doctor to fill out the bottom half of the form only if the bills do not give the necessary basic facts about the services supplied and when and where they were furnished. Under the alternate system, only the doctor will send in the claim and receive payment. Under this method, the patient will fill in the top half of the form and give it to the doctor. The doctor will fill in the bottom half of the form and send it to Blue Shield which will be handling medical insurance benefits in this area. A sample form and a copy that may be used in making the first claim will be included in your *Medicare Handbook*, which has been mailed to all persons entitled to hospital insurance and medical insurance benefits. Additional copies of the forms will be available at all organizations which have been selected to pay bills under the medical insurance program.

Personal Glimpses

Herman J. Bennett, M.D., lectured on mental health aspects of absenteeism to a seminar for 60 industrial personnel directors, sponsored by the George Washington School of Medicine, Department of Psychiatry . . . Robert B. Flinn, M.D., L. Theodore Lawrence, M.D., and Robert Wuertz, M.D.—all of Wilmington—were among the Fellows inducted at the 47th Annual Session of the American College of Physicians . . . A. Henry Clagett, Jr., M.D., has been elected Delaware representative of the American College of Physicians with the title of Governor at the same Annual Session . . . S. Ahmed Madani, M.D., was recently elected Member of the American Society of Anesthesiologists . . .

Steroids In Hemorrhagic Shock

Prolonged treatment with large doses of steroids may significantly change the survival rate of persons in hemorrhagic shock, according to results recorded in the March-April issue of *Anesthesiology*, by Philip S. Marcus, M.D., Director of Anesthesiology at Boston City Hospital. In an initial double-blind investigation, 48 patients in shock or impending shock, were given an intravenous dose of methylprednisolone (*Solu-Medrol*) before surgery. They had a much higher survival rate in the first 24 hours post-operatively than an equal number of controls. In answer to questions posed by JAMA, Dr. Marcus said that the Boston group is now working with patients in whom corticosteroid therapy has been extended from a single dose to a dose every six hours for three days. No side effects of *Solu-Medrol* have been observed in the current investigation, he added.

AEC Notice

The Atomic Energy Commission has developed an employer-state-federal records and reports system for employees who may be exposed to radiation in their work. A description of this has been sent to state officials and other interested groups for review and discussion. The proposal suggests a uniform system of collecting, recording, and retaining certain kinds of employee information. This would assist Workmen's Compensation Boards and Commissions in protecting the interests of employers and employees in the settlement of claims where radiation injury is alleged. The employer would have the primary responsibility for maintaining detailed records on each monitored radiation worker. The state would maintain certain records and assure that proper records are being kept by all employers. The Federal government would maintain a central repository of these exposure records and would provide information as requested by the state. This system will be discussed, including suggested changes, at a series of conferences during the next three or four months.

The Month In Washington

The National Academy of Sciences-National Research Council will make the most extensive efficacy study of drugs for the FDA ever undertaken and will evaluate about 4,000 prescription drugs marketed from 1938 to 1962 (called for under the Kefauver-Harris Amendments of 1962). The AMA sharply criticized the FDA's enforcement of this drug act, and listed 10 counts on "the minus side" of the FDA record on administering the Amendments. President Appel said, "The manner in which the Agency suddenly seizes drugs and accompanies this activity with alarming language tends to create an atmosphere of hysteria. It also is creating a restrictive and undesirable medico-legal climate that will inevitably exert deleterious influence on the effective use of drugs by the physician. We have been apprised of incidents where such inspection has extended even to the personal file of an investigating physician." Appel also listed some "plus factors" for the FDA, including the fact that a physician now is FDA Commissioner.

Brief Briefs

- The drive by memorial societies to encourage the bequeathal of bodies to medical schools has resulted in an increase in the supply of cadavers available for medical education. A resume of the procurement policies followed by all the medical and dental schools will be found in the third edition of *A Manual of Simple Burial*. (\$1, Cello Press, Burnsville, N.C.)
- A continuing education demonstration center for physicians and other

personnel will be established at the University of Illinois College of Medicine, sponsored by the US-PHS' Division of Community Health Services. This will serve as a model for the ultimate establishment of similar centers in other institutions. A system will be established to set continuing medical education priority needs; conduct research and demonstration projects on all aspects of continuing education; develop curriculae and educational materials; establish criteria for evaluating continuing education activities and serve as a training facility for faculty members.

Meetings

The American Association for the Study of Headaches invites all physicians to attend its 8th Annual Meeting in the Williford Room, Conrad Hilton Hotel, Chicago, Illinois, June 25, 1966.

Manuals Available

The Fat and Sodium Control Cookbook, is for anyone whose physician recommends that he reduce the amount of sodium or fat or change the type of fat in his diet. Clear, simple directions work out the dietary problems for blood cholesterol level control with or without weight reduction, hypertension, dropsy, certain other diseases of the heart, kidneys and liver or the complications of pregnancy. The homemaker must translate a dietician's or doctor's orders into tasty food for the patient and the whole family as well. A special edition of this cookbook put out by the Sunkist Growers may be ordered for \$3. White Sunkist Growers, Section 30 CS, Box 2706, Terminal Annex, Los Angeles, Cal. 90054.

A handbook on the care of incontinent patients at home has been prepared by Johnson & Johnson. It is available to doctors, nurses and institutions for free distribution. The booklet will serve as a valuable instructional aid in nursing homes and includes a list of health and welfare agencies for the patient's family. Write: Johnson & Johnson, New Brunswick, New Jersey 08903.

AUXILIARY AFFAIRS

Continued from Page 188

people spend as much for liquor and cigarettes as they do for medical care.

If the speaker doesn't drink, she might own a French poodle. You could come up with, "You could have take Fluff-Puff to the vet and for about the same fee had her clipped instead."

A little thought and practice will provide you with many ways to compare medical care costs to prices charged by the plumber and the automobile mechanic. You are sure to meet people who have been faced with large and

unexpected hospital bills and who are just plain mad. They did not want to be sick or worried and inconvenienced. The doctor is to blame — he sent the patient to the hospital, didn't he? It may be possible at this point to suggest that everyone should have hospital insurance and also to explain that "It costs so much to fix anything these days."

Evan Hill wrote in the Saturday Evening Post recently: "*The wonders of American medicine are the every day tools of the MD, and he is using them with success. Never before has the patient paid so little, per unit of health, and gotten so much from his physician.*"

(Reprint from MD's Wife — Sept. '65)

THE PREPARATION OF LIQUID HALOTHANE STANDARDS FOR GAS CHROMATOGRAPHY

- Gas chromatography is a rapid and accurate method for the qualitative and quantitative analysis of gas mixtures. A simple calibration method with liquid halothane standards is described and the application of gas chromatography in anesthesia is illustrated with examples.

GERTRUDE PRUCKMAYR, M.D.
R. DOUGLAS SANDERS, M.D.

The application of gas chromatography for the determination of anesthetic gases and vapors is relatively recent.¹⁻¹¹ Additional references on related subjects can be found in reference 12. One of the earliest papers appeared in 1958, dealing with the separation of diethylether and chloroform on paraffin and silicone rubber column.¹ Adlard and Hill reported in 1960 the separation of O₂, N₂O, CO₂, cyclopropane, ether and halothane,² and Fabian et al. used gas chromatography for the analysis of different halogenated anesthetics in respiratory gases.³

Starting in 1962 a series of publications appeared, dealing with the determination of halothane and methoxyflurane concentrations in blood.⁴⁻⁷ These methods usually required time-consuming procedures such as extraction with various organic solvents, distillation, etc. In 1964 Lowe reported a rapid and accurate technique.⁸ He used a flame ionization detector which is not affected by O₂, N₂, CO₂, and N₂O. Blood samples were introduced directly

into the injection port of the detector without the use of a chromatographic column.

The present communication reports some of the work with liquid and gas standards for the chromatographic determination of halothane, carried out in the Department of Anesthesiology at the Delaware Division, Wilmington Medical Center.

Method

The following technique was used to prepare liquid halothane standards:

Approximately 8 ml of n-heptane were filled into a 10 ml volumetric flask with a pipette or syringe. Exactly 100 μ l of halothane were then added with a Hamilton Micro Syringe, injecting the halothane beneath the surface of the heptane. More n-heptane was then added dropwise to bring the total volume of the solution up to exactly 10 ml. Finally mercury was added slowly until the flask was almost completely filled. The top was sealed with a serum cap, and the flask was shaken several times to accelerate equilibration. Different samples of this solution were now injected

Dr. Pruckmayr is Resident, Anesthesiology Department, Temple University Hospital; Dr. Sanders is Director, Department of Anesthesiology, Wilmington Medical Center.

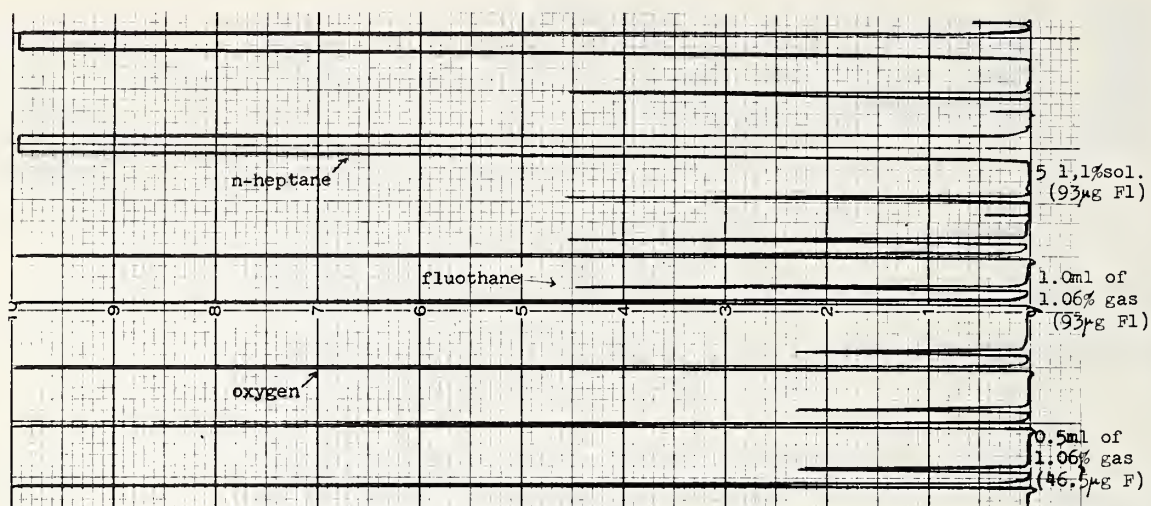


Figure 1. Chromatogram of liquid and gas standards. (For experimental conditions see Table I).

into the gas chromatograph* with a 10 μ l Hamilton syringe for standardization.

The concentration of the standard solution is 1% by volume (0.1 ml halothane in 10 ml n-heptane). 10 μ l of this solution therefore contain 0.1 μ l halothane, or 186 μ g, (spec. gravity of halothane = 1.86); 5 μ l solution contain 93 μ g. In Fig. I a 5 μ l liquid sample is compared with a 1.0 ml gas standard, containing also 93 μ g halothane. Under the conditions specified in Table I the peak heights were identical. The gas standards were prepared by the following method: 0.2 ml of liquid halothane were injected into a 1 gallon bottle (measured volume: 3970 ml) filled with O₂ at atmospheric pressure. This results in a gas mixture containing 1.06% by volume of halothane at standard temperature and pressure (S.T.P.), or 9.37 mg%.

The liquid standard solutions seemed to be quite stable. After standing for several days, exactly identical peak heights were obtained.

Results

Different sample sizes were now injected into the chromatograph to test the linearity of response of the thermal conductivity cell. The results are shown in Fig. I and II. The sample size in μ l is indicated and the amount of halothane in each sample is given in micrograms (the halothane concentration is given in μ g rather than in volume percent to avoid temperature and pressure corrections).

The results of Fig. I and II are summarized and extended in Table I. All peaks represent averages of at least 3 consecutive samples which differed not more than 2% in height. In Fig. III the peak heights (at attenuation 8) are plotted versus the amount of halothane

$$\begin{aligned} \text{(100 ml gas standard contain:)} \quad & \frac{(\text{sp. grav.}) (\text{vol. of liq. haloth})}{(\text{total vol.}) (1/100)} = \frac{(1.86) (0.2)}{(3970)} 100 = \\ & 9.37 \text{ mg halothane.} \end{aligned}$$

$$\begin{aligned} 1 \mu\text{l liquid halothane} = & \frac{(\text{sp. grav.}) (\text{vol. of liq. gas at S.T.P.})}{(\text{mol. weight})} = \frac{(1.86) (22.4)}{197.39} = \\ & 0.21 \text{ ml halothane gas at S.T.P.} \end{aligned}$$

$$100 \text{ ml gas standard contain therefore: } \frac{(0.21) (200)}{3970} 100 = 1.06 \text{ ml halothane gas at S.T.P.}$$

*F & M Scientific Corp., Model No. 720.

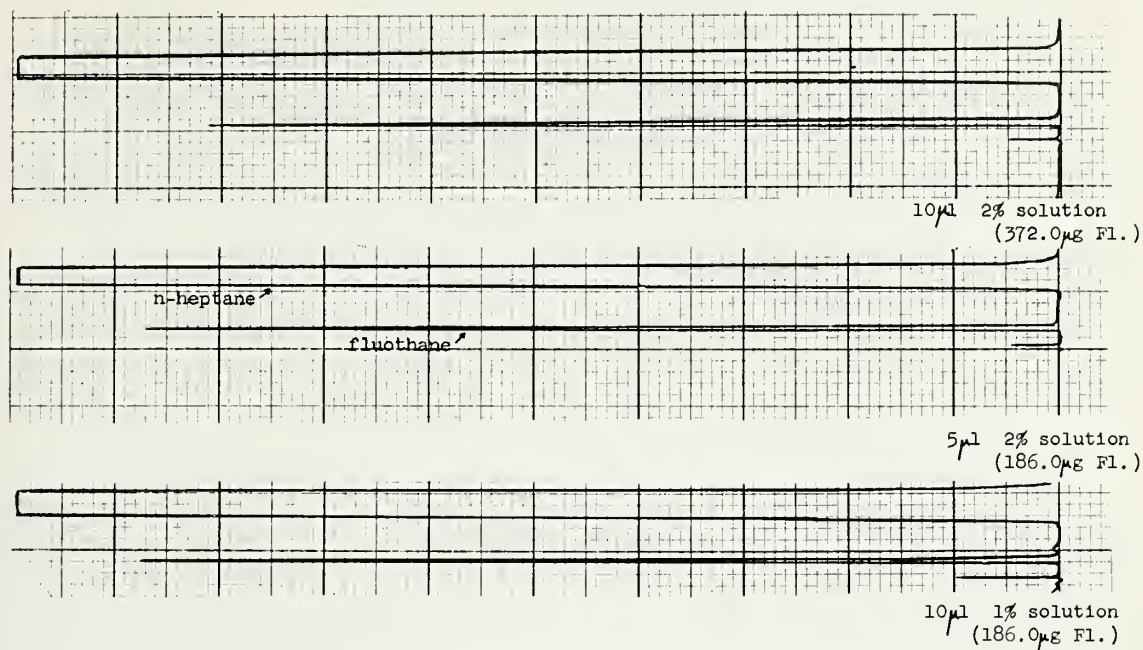


Figure II. Chromatogram of liquid standards at different concentrations. (Attenuation 4 and 8, see Table I).

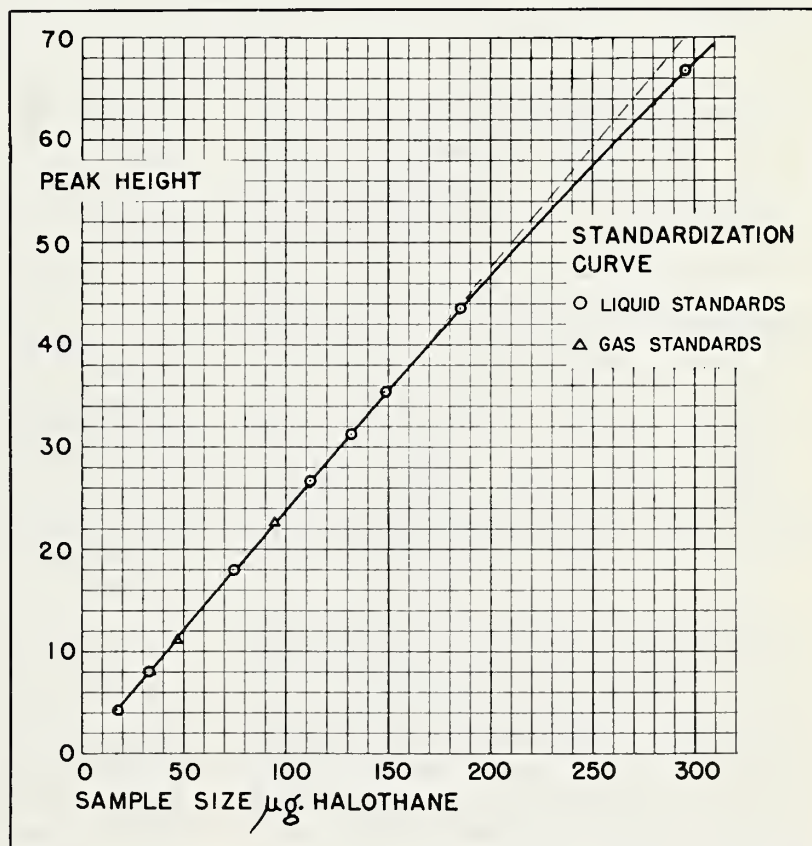


Figure III.
Standardization curve. Peak height vs. sample size at attenuation, (see Table I).

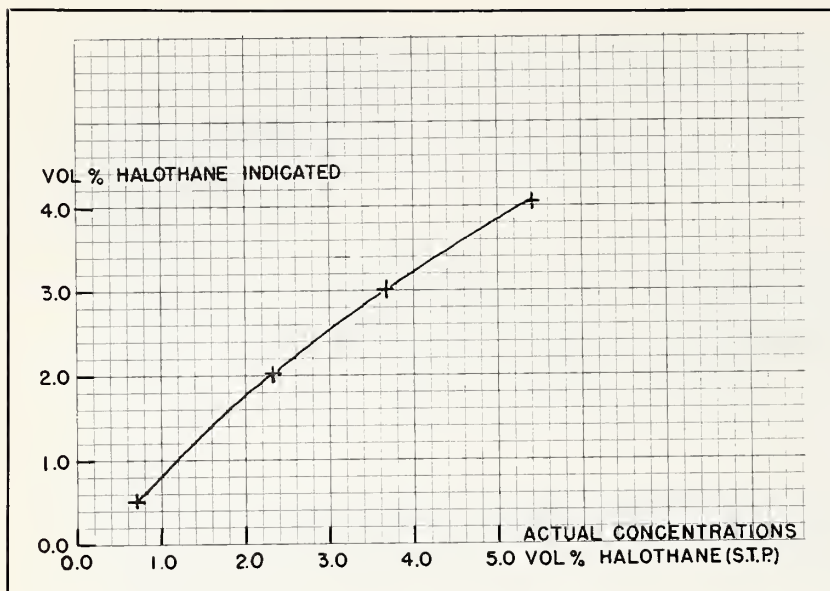


Figure IV.
Calibration of a vaporizer.
Indicated vs. actual halo-
thane concentration.

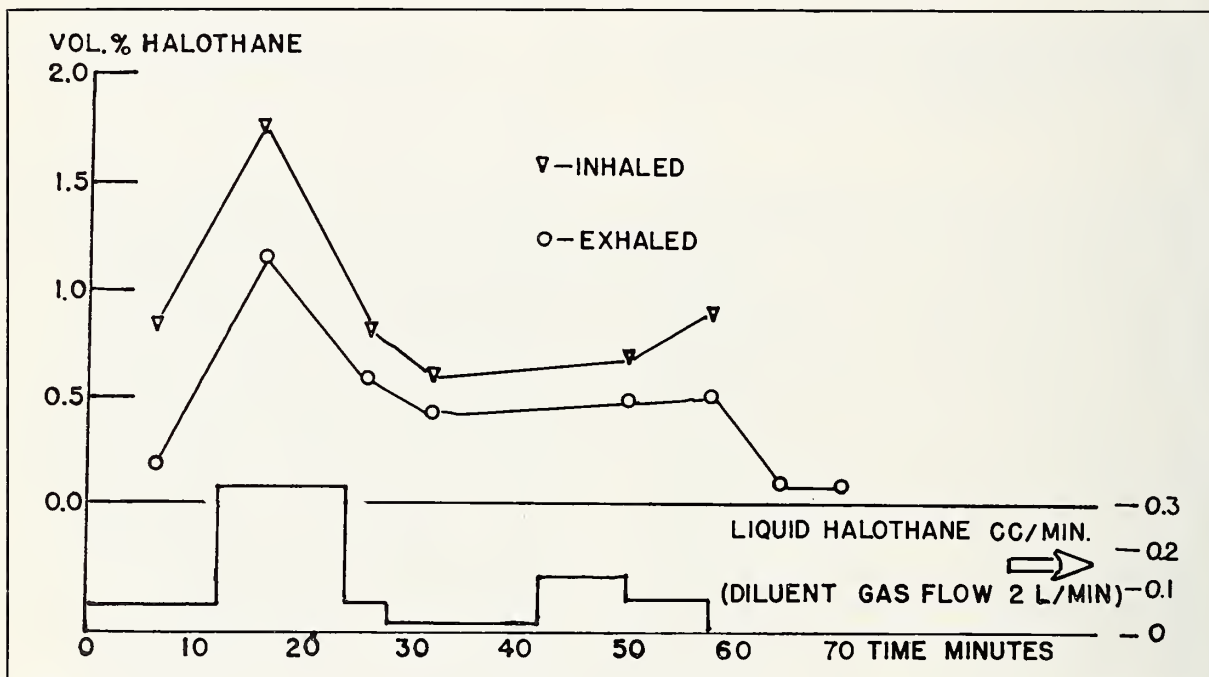


Figure V. Case A: Operation: Complete extraction and alveolectomy. Anesthesia: Halothane, injected with syringe injector, s.c.s. with CO₂ abs. Flow rate: 2 L O₂/min.

in μg . The plot is linear up to approximately 186 μg halothane. At a sample size of 0.5 ml of a gas mixture, this would correspond to a concentration of 4.6 volume percent halothane at 20°C and normal pressure, so that a linear response is verified over most of the working range of anesthetic halothane mixtures.

It is interesting to compare these results with the findings of Cohen et al.⁹

The authors then tested the linearity of response of a flame ionization detector, and report a linear correlation of the integrated peak area at halothane concentrations up to 0.05 μl , i.e. 93 μg . Above that concentration

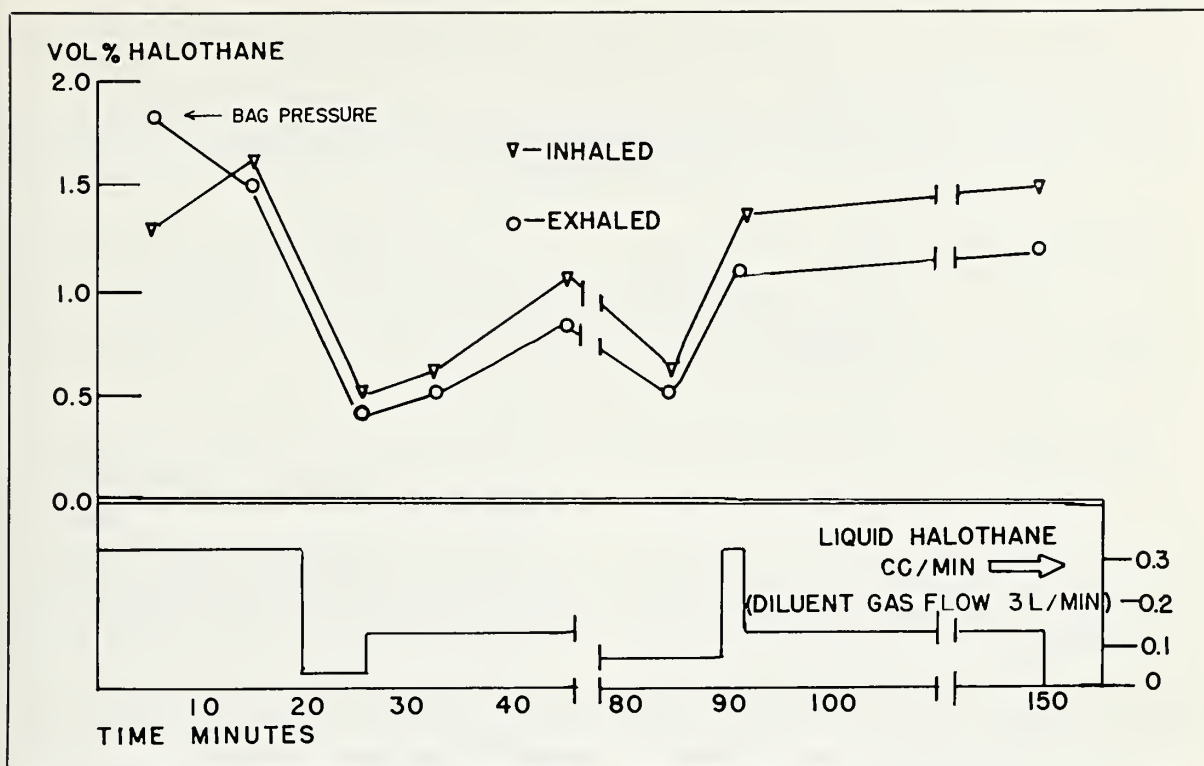


Figure VI. Case B. Operation: Vag. hysterectomy. Anesthesia: Induction with penthotal 0.2g iv.; halothane, N₂O, s.c.s. with CO₂ abs. Flow rate: 3 L/ min. (2 L N₂O, 1 L O₂). Total halothane: 13cc, injected with syringe.

the response became logarithmic. The authors found that the peak height was also linear at low concentrations, but in the logarithmic section of the integrated peak area the peak height departed completely from this relationship and approached an asymptote at very high concentrations.

A number of commonly used vaporizers were now tested and the percent halothane indicated on the instrument plotted against the true concentration. An example is shown in Fig. IV, where a commercial vaporizer was checked. The deviations were relatively small at low concentrations, but at 4 vol.% halothane an error of almost 40% was found in one of the tested instruments.

TABLE I

Conditions:

Gas Chromatograph: F & M, Model #720

Column: Silicone rubber, 2 ft.

Column Temperature: 55°C

Injection Port Temperature: 60°C

Detector: Thermal Conductivity Cell

Detector Temperature: 260°C

Current: 150MA

He Flow: 60ml/min.

Chart Speed: 15"/hour

Attenuation: 4⁸

Sample Size	μg fluothane	Peak Height
1 μl 1% solution	18.6	8.3
2 μl 1% solution	37.2	17.5
0.5ml gas, 9.3mg%	46.5	22.7
4 μl 1% solution	74.4	36.0
5 μl 1% solution	93.0	45.2
1.0ml gas, 9.3mg%	93.0	44.8
6 μl 1% solution	111.6	53.3
7 μl 1% solution	130.2	62.6
8 μl 1% solution	148.8	70.6
10 μl 1% solution	186.0	87.0
5 μl 2% solution	186.0	87.5
8 μl 2% solution	297.6	66.8
		(Attn 8)
10 μl 2% solution	372.0	80.8
		(Attn 8)

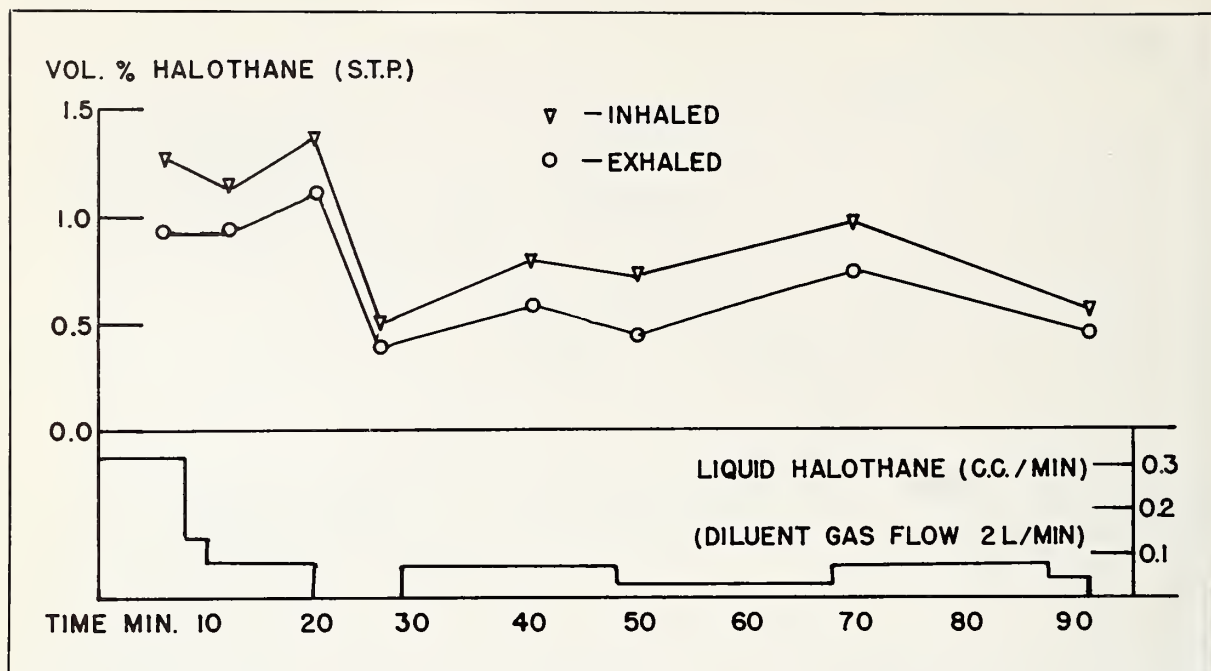


Figure VII. Case C. Operation: Prostatectomy. Anesthesia: Induction with pentothal; halothane, N₂O, s.c.s. with CO₂ abs. Total halothane: 7cc, injected with syringe.

Finally different samples of inhaled and exhaled gas mixtures were taken during actual anesthesia. Examples of the results of this technique are shown in Fig. V, VI, and VII. In Fig. V the volume percent halothane (at S.T.P.) of 16 gas samples are shown. Also indicated is the amount of liquid halothane (in cc/min) injected with a syringe injector into a semiclosed system, at a constant flow rate of 2 L O₂/min. Figures VI and VII show two cases where pentothal was used to induce anesthesia which was then followed through with halothane and nitrous oxide. In both cases the amount of injected liquid halothane and the flow rates are also shown in the graphs.

Summary

1. Solutions of halothane in n-heptane were compared with halothane gas standards. Corresponding halothane concentrations gave identical responses in a gas chromatograph with a thermal conductivity detector.

2. Linearity of response was preserved up to sample sizes of 186 µg halothane. At higher

concentrations negative deviations from linearity were observed.

3. Three cases are shown where the actual halothane concentration during anesthesia was checked by gas chromatography. In all cases liquid halothane was injected by a syringe injector into a semiclosed system.

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A Report of the Committee on THE INCORPORATION OF CLINICAL LABORATORIES

To: The President and the Council of the
Medical Society of Delaware
From: The Committee — W. J. Vandervort,
M.D., Chairman, J. W. Abbiss, M.D.,
A. E. Bacon, Jr., M.D.

This Committee has been asked to explore the ethicality of physicians' incorporating clinical laboratories, and to recommend policy to the Council on the following questions:

Is incorporation of and participation in a clinical laboratory by physicians necessarily unethical? If not, what characteristics of such an arrangement would make it unethical?

In view of the above questions, are there guidelines for ethical participation in incorporated clinical laboratories and what are they?

To help it in its work, the Committee held a meeting open to all interested physicians on April 26. This was well attended, and included representatives of each physician-incorporated laboratory in the state which we know to exist or to be in the planning stages. There were in addition, accounting, business and legal representatives of these laboratories present, as well as several physicians specializing in laboratory medicine who do not, so far as we know, have any formal connection with the incorporated laboratories. There was a full discussion of the operation and ethics of these enterprises, which was of considerable help to the Committee in its formulation of guidelines.

We would like to preface this report by pointing out that the legality of such incorporations is not at issue. This is not only self-evidenced by the acceptance of corporate

charters by the Secretary of State, but has been specifically confirmed by counsel at the Committee's request. The scope of this report, therefore is confined solely to the ethicality of the arrangements. We believe that the questions that arise turn basically upon Section 7 of the Principles of Ethics, which reads:

"In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him, or under his supervision, to his patients. His fee should be commensurate with the services rendered and the patient's ability to pay. He should neither pay nor receive a commission for referral of patients. Drugs, remedies or appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient."

We feel, too, that the established principle that the ethics applicable to a group of physicians are not different from those binding upon a single physician is of paramount importance in this discussion.

We have reviewed the possible ethical objections to physician-sponsorship of an incorporated clinical laboratory. We believe they derive from the following six abuses which such an arrangement might be suspected of fostering.

1. Exploitation of the patient, either through motivation to over-utilize laboratory tests or through unfair pricing.
2. Sub-standard clinical work.

3. Fee-splitting, either through an arrangement for division of the profits or through rebating to the referring physician part of the fee for the referred service.

4. Solicitation of patients.

5. Participation in compensation for professional services by non-professional people.

6. The practice of medicine by a corporation, substituting the corporation's responsibility and judgement for that of the individual physician.

It is certainly true that a physician-sponsored clinical laboratory could be a vehicle for perpetrating one or more of these abuses. The Committee believes, however, that such a laboratory can be operated in absolute conformity with the ethical principles governing each of these situations. We propose to discuss them one by one, and to propose appropriate guidelines.

1. The motive to over-utilize services of which the use is in the control of the venter is inherent in any personal service. Its existence is not limited to physicians. The patient's defense lies in the integrity of the individual practitioner, or in review by the practitioner's peers, or both. We are unable to see how the existence of a joint venture would lead to any increase in incentive to over-utilization, as compared with the rendering of services in the individual's office. It may, in fact, tend to decrease this motivation, through the existence of an inherent review mechanism.

The second element of exploitation, price, is a more objective factor, which can relatively easily be checked against community standards.

Guideline I:

The establishment of a joint venture does not relieve the participating physicians of the responsibility to protect the patient from exploitation both as to utilization of the service and as to its price. Physicians remain morally and ethically bound to afford their patients this protection in any clinical enterprise under their control.

2. The Committee is unable to see that the pooling of laboratory services has any tendency to lower the quality of these services as compared to their quality in the offices of the individual physicians involved. We feel, in fact, that the quality is likely to be improved by more constant work loads and the presumed ability of the joint venture to afford better trained personnel and more sophisticated equipment than the average physician in clinical practice.

However, the existence of a laboratory as a separate entity and its physician sponsorship does, in our opinion, impose an obligation to maintain standards worthy of professional practice. While it may be true that laboratories under lay sponsorship may operate without the same liability, it is also true that their sponsors are denied the privilege of medical practice.

Guideline II:

Physician-sponsored laboratories should have active, continuing, well defined programs of quality control, for which their sponsors are directly responsible. Such programs should be established in consultation with individuals trained in laboratory procedures and control. Provision should be made for periodic review of the quality control system. Laboratory personnel should be given opportunities to maintain and improve their skills through in-service training and attendance of appropriate educational meetings.

3. It is a well established principle of ethics that a physician may not pay for referrals, and that a referring physician should receive no part of the fee for a service to which he refers. This is true not only of professional services, but of rebates on appliances, commissions from pharmacies, and similar schemes to compensate a physician for work he does not do or for directing business to specific enterprises. The Committee feels it would be unrealistic not to recognize that there is a definite potential for abuse of this principle in the physician-sponsored clinical laboratory. The abuse, however, is not necessarily inherent in the arrangement and it is also established that a physician may realize a reasonable re-

turn on his services and on the capital invested to provide those services.

Guideline III:

A physician-sponsored laboratory may not pay any individual or agency, sponsoring or non-sponsoring, for referring work to it. This principle is as binding upon the group as upon any individual. The laboratory may pay individuals for bona fide services rendered.

The same is true of the division of profits. These must be divided primarily on the basis of services rendered, and not on the basis of capital investment alone, nor of the volume of work referred, exclusive of services.

4. Since the compensation of physician-sponsors of clinical laboratories is related to professional services, the ethics of solicitation govern the conduct of the laboratories.

Guideline IV:

The laboratory may use the same avenues that are open to physicians to call the attention of other physicians to its services. It should not publicly advertise its services, nor solicit business from the public directly. Its affairs should be conducted with the realization that it is in fact representative of physicians in free competition with other physicians, and its corporate structure must not obscure the proprieties of this relationship.

5. It is a well established principle of ethics that physicians may not share their fees for professional services with individuals who do not render such services.

Guideline V:

The laboratory should provide fair compensation to its administrative and technical personnel. This may properly include salary, fringe benefits, merit bonuses, or any other compensation for services rendered. It may not, however, provide for participation by non-medical personnel in fees for medical service. Neither may it permit stock arrangements which, in effect, allow lay stockholders to profit from physicians' services to their patients.

6. The Committee believes that a corporation is unable, by law and in fact, to possess the knowledge necessary to practice medicine. The Committee also believes that any attempt by a physician to evade personal responsibility for his professional decisions would be in the best interest of neither the patient nor the medical profession. While it is entirely ethical and feasible for a physician to delegate parts of his work, including laboratory testing, he must assume responsibility for the interpretation of laboratory results and their application to the treatment of the patient.

Guideline VI:

The laboratory must confine its corporate services to the provision of information. Its Charter should reflect this restriction. Interpretation of this information and its application to patient treatment must remain the privilege and responsibility of the individual physician.

May 5, 1966

WATER AND SALT

The water supply of salt in patients with high blood pressure and other diseases requiring salt-restricted diets can be an important and unsuspected source of sodium. Use of water softeners, either on a community or individual basis, is an important source of sodium. Water with a low sodium and high calcium content is often converted by water softeners to a high sodium and low calcium content. If a home-installed water softener is used, leaving one cold water spigot not connected to the water softener would solve the problem. *Oklahoma Medical Association Journal*, March pp 91-97.

A DIAMOND KNIFE IN THE CATARACT INCISION

• This paper introduces a new instrument for cataract incisions by use of a diamond knife. This is their first known use in human surgery. The knife edge has a radius of 100 Angstrom units and our 60 cataract operations have been successfully performed.

DAVIS G. DURHAM, M.D.

In eye surgery, as in all types of surgery, a continual search for sharper cutting instruments, whether for knives, needles or scissors, has produced improved instruments in the last few decades. Until recently, the stainless-steel blade has presented the sharpest edge. However, diamond knives, manufactured by the Instrument Products Division of E. I. du Pont de Nemours & Co., Inc., Wilmington, Delaware,¹ are far sharper than any steel edge. These are made from gem-quality diamonds and were developed originally for sectioning biological materials, as in microtomy. The cutting edge is perfect to the extent that no defects are visible at 1000X magnification. This paper describes their use in the cataract

incision. As far as is known, this is the first use of diamond knives in human surgery.²

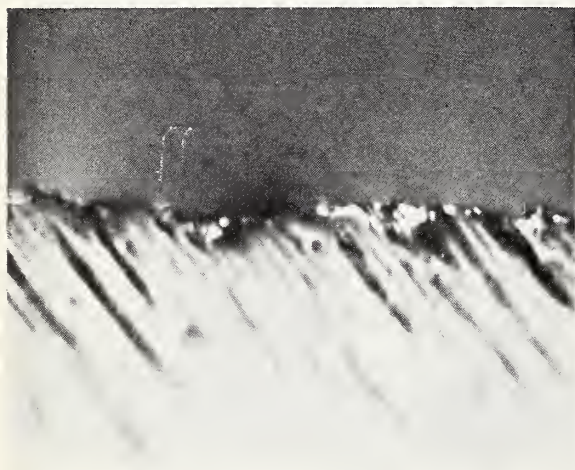


Figure I—Bard-Parker knife, 1000X

Dr. Durham is Director of Ophthalmology with Project Hope; Attending Chief in Ophthalmology at the Delaware Division, Wilmington Medical Center and Associate in Research on the Staff of Wills Eye Hospital.

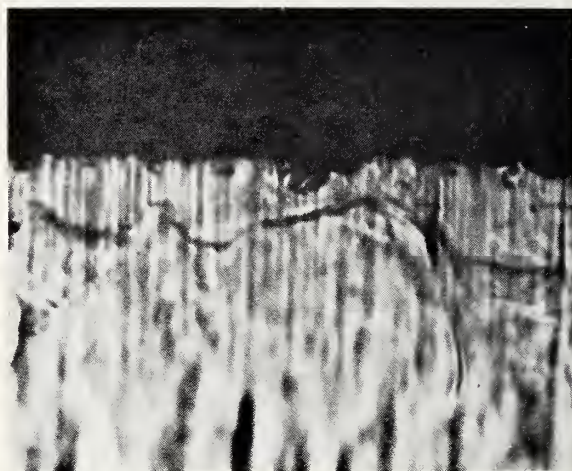


Figure II—Stainless-steel knife, 1000X



Figure III—Diamond knife, 1000X

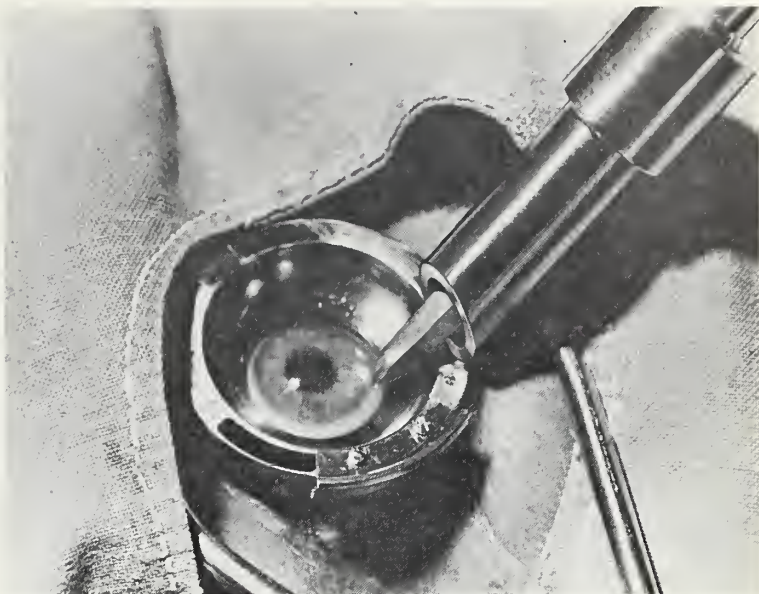


Figure IV—Vacuum fixation device applied to the eye, showing the diamond knife in position for cutting.

The cutting edge of a Bard-Parker steel knife blade is shown in Fig. 1 and a stainless-steel knife is shown in Fig. II. In comparison, the edge of a diamond knife is shown in Fig. III. The ultra-sharp diamond blade measures less than 100 Angstrom units in thickness at its edge, compared with the dimension of a red blood cell, which is 80,000 Angstrom units in width.

For use in cataract surgery, the diamond edge is mounted in a metal shank and has an included angle at its cutting edge of 35 degrees. The life of the edge is almost without limit if it is handled with care. The knife can be resharpened if necessary, but this is a factory procedure. Repeated autoclaving or other means of sterilization in no way affects the cutting edge.

The whole device fixates the eye rigidly by vacuum. The knife rotates on a "Teflon" bearing and provides up to a 360° incision, if desired, as in corneal transplants. The depth of the incision is controlled by a guard set at 0.8 mm. The diameter of the incision is adjustable from 12 to 6 mm. The knife is angled to provide a beveled incision. Continuous inspection of the incision is possible as the knife progresses. The perfect beveled incision affords excellent apposition of the wound edges, per-

mitting normal restoration of the shape of the eye and reducing or eliminating wound leakage or rupture.

In the operative procedure, upper- and lower-lid sutures, as well as a superior rectus suture are inserted, although a speculum is also easily used. The device (Fig. IV) is shown applied to the eye and held by vacuum. The vacuum can be supplied by a separate pump, an anesthesia suction machine, or a house supply. Fig. V shows the vacuum side of the device and two-piece construction. The usual incision is at the corneal-scleral margin, but a completely corneal incision is possible by adjusting the blade to a shorter radius. A flap either fornix-based or limbal-based, is feasible, although the preference is for no flap. Without a flap the conjunctiva retracts spontaneously for several mm. or can be retracted further by blunt dissection. A partial incision approximately $\frac{3}{4}$ mm. in depth is made. Since a penetrating incision has been shown to cause prolapse of the iris, and often of the vitreous, due to the vacuum, a partial incision is deemed advisable. The vacuum and knife are removed after the partial incision, the preplaced sutures inserted and the incision completed with knife and scissors. The cataract is removed in the manner of the surgeon's choice. The sutures are tied and additional reinforcing



Figure V—Vacuum side of the device, showing two-piece construction and "Teflon" bearing (white area in right-hand ring).

sutures placed. Acetyl choline is placed in the anterior chamber for miosis and restoration of the chamber.

Over 60 cataract operations have been performed with the diamond knife, approximately one-third at the Memorial Division of the Wilmington Medical Center, Wilmington, Delaware, and two-thirds in cooperation with Professor Maurice H. Luntz, M.D., Depart-

ment of Ophthalmology, University of Witwatersrand, Johannesburg, South Africa. To date, no known complications have resulted attributable to the diamond knife or this technique. There have been no cases of wound rupture or leakage with this technique.

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PUBLICATION NOTES

The Merck Manual, a volume small enough to fit in a doctor's bag and believed to be the most widely used medical text book of its kind in the world, is voluminously indexed with thumbtabs for speedy reference, (866 pages) divided into 366 chapters. Published by Merck Sharp and Dohme Research Laboratories, it is published as a *service* to those in the health professions, rather than for profit. The regular edition retails at \$7.50.

"Is the practical nurse here to stay?" is the subject of two articles in the June 16 issue of *Hospitals*. Increased demand for more and better nursing care in hospitals is going to require more licensed practical nurses (LPN's) than ever before. The new image of the L.P.N. will have a definite influence in the future planning for the profession of nursing.

Reflections of a Country Doctor

PART IV

"The beloved Dr. Robert B. Hopkins hung out his shingle in 1887. A son of Dr. James A. Hopkins, Dr. Bob, soon built up a large practice. He was a very civic-minded man and served as Mayor of Milton. The Milton Water Works was his pet project; as a doctor, he knew the health value of pure water. He also organized and played in the Milton Band, whose concerts were very much enjoyed at the turn of the century."

Milton Sesquicentennial Program

ROBERT B. HOPKINS, M.D.

Taxation

It would seem but right that physicians, in consideration of the amount of charity they do, should be exempt from taxation. In many states they are, but in Delaware they are compelled to pay a fee of Ten dollars annually. Several years ago the State Medical Society did make an effort to have the law repealed. They drew up a bill and presented it to a member of the State Legislature. He, wishing to economize time and paper, attached the bill to one that he was endeavoring to pass in relation to exempting jackasses from taxation. It is needless to say the bill was defeated and the physicians of Delaware are still compelled to pay an annual fee of Ten Dollars to be allowed by law to dispense their charity and to be classed with a quadruped of questionable integrity.

The physician as a general rule is a poor business man, he cannot exact from the poor; he does not like to bear the reputation of being a dunner — it is embarrassing and extremely unpleasant. Yet people have no scruples against dunning you if you do not

pay your bills promptly. We imagine some people think physicians are endowed with some super-human or clandestine power whereby some presto change they can readily call to their assistance some Aladdin of Arabian night fable.

"I suppose doctor", asked a man, "You make quite a sum of money during the year." I earn quite a sum, that is true, but earnings and getting are entirely different things. All work and no pay often makes the physician a very disinterested party. How draggy your work; how uninviting. No other class of men are expected or even asked to work for nothing. Yet the physician is very hard-hearted if he refuses his services, in fact, his position in life is of such a nature he could not withhold his hand if he would. You are expected to enter homes where pestilential diseases exist, yet without a murmur or a word of protest. You are a servant of the people. You must be ready at their beck and call. Your personal feelings are not consulted in the case. You may anticipate a day of recreation—a call and all your expectations vanish. Thus the years pass swiftly by. You measure your success financially by some college friend you chance to meet and find that he has far out-

Dr. Hopkins was President of the Medical Society of Delaware, 1901-02.

stripped you—he has gained quite a fortune while you are still plodding along gathering here and there possibly a few dollars, anticipating but never realizing a sufficient amount to gain a competence. Contentment is better than riches. Heaven grants a large portion to Country Doctors. Our willingness to work is often commensurate with the pay. Give a man encouragement and his work is a pleasure rather than a drudgery.

A physician related this incident to a person who always asked him when settling their business to make a reduction in his fee, in fact, the man was very penurious always complaining of "hard times" and made the remark that the doctor did not give *his* family the attention he might. "An old farmer having a large wheat field to be harvested employed several laborers." He began thus to his wife. "I have employed several men to come and work in the wheat field tomorrow. The times are hard and we cannot afford to feed them on expensive food. Give them simply buttermilk and whey, that is cheap and we have quite a supply." The men arrived promptly on the appointed day. When the noon hour arrived they were ushered into the dining room and regaled on buttermilk and whey. When the day's work was done the same fare was placed before them. The next morning for breakfast the same. The men seem to get along very slow, thought the farmer, and further I hear them humming some kind of tune. Stealthily creeping up behind them as they slowly wended their way he heard them singing as they kept time with their scythes—buttermilk and whey three times a day—buttermilk and whey three times a day. The farmer's wife, becoming anxious that the wheat should be harvested as the sky indicated an early rain, said to her husband, "John these men cannot work on such food, they need something more substantial; today I shall prepare a good dinner of ham and eggs." When the noon hour arrived and the workmen were ushered to the table their faces brightened. When they resumed their work the old farmer noticed they moved with a quick step; they swung their scythes with a vim and purpose, and still hearing them singing he ventured to creep up

in the rear and heard them repeat as they swiftly wielded their scythes 'ham and eggs—look out for your legs; ham and eggs look out for your legs'. The field was soon mowed, the wheat harvested before the rain. The workmen were paid their hire and went away rejoicing and the farmer and his wife both were happy."

What Is Success?

Ability and success, financially, do not always go hand in hand. People often seek after the mysterious and obscure. A man of prepossessing appearance with insinuating graces can often times accomplish more financially in the practice of medicine than the diligent observing student with a brain that would outbalance by far several of his fluent and pusillanimous brother competitors. The Country Doctor's reputation seldom extends beyond his own territory. However successful he may be with his operations and in the treatment of disease, people accept it as a matter of course. The locality in which he lives necessarily debars him from material advancement. His time is occupied in administering to the varied necessities of his patients and, therefore, cannot make a specialty of one to the exclusion of the other branches of his profession. But surely we would be judging the physician falsely were we to measure his success entirely from a financial point of view. What influence does he exert in the community in which he lives. Does he strive by precept and example to point the erring to a better and purer life. Is he confiding, honest and true. Is he one to whom you can reveal the secrets of your heart. Is he one who can be trusted in the sacred precincts of the home. Is he a wise counsellor—a true and faithful friend. Does he command respect. Is the world benefited by his living in it? If not, his life in a measure is a failure.

There are higher and nobler purposes in life than self-aggrandizement. A man should be judged by his worth—"An honest man is the noblest work of God". True labor brings its sure reward—labor for a purpose an object commendable. Aspire for the acquisition of unfading and eternal blessings. Things of this

Reproduction of a painting by Dr. Hopkins who found time to be an artist in his spare time. This one hangs in Masonic Hall, Milton, Delaware.



life will pass away. Seek to raise a fallen brother by your wise council—your sympathy and timely help. Point him to a nobler life; strive to awaken his perceptions to his privileges and possibilities. Be kind to the worthy poor, the needy and distressed, for the Great Physician has said in as much as you did it unto one of these the least of mine, ye have done it unto me; and, by so acting our part the world may be improved and although we may not reap any material benefit yet we are repaid in a measure by knowing that we have done what is right, for oftentimes the richest reward the physician receives is from some poor man or woman who, appreciative and grateful for your services, says "God bless you". The physician then realizing the position he occupies and failing to perform his duty is guilty of gross negligence and is unfit to receive the confidence and support of any community. Each person's success depends upon his own exertions, faithful endeavor and a reliance upon Divine Providence for guidance and support.

*In every life each deed, each word, each thought,
Bears ever fruitful harvest of its kind,
Its nature stamped upon the heart and mind,
Ever remains with good or evil fraught.*

*Man's soul is but the sum of life below,
We are just what we daily, hourly live,
Nor may we other recompense receive
But reproduction of the seed we sow.
Who soweth to the flesh, of flesh shall reap.
Corruption — he who to the spirit sows
In everlasting life his soul shall keep —
For by its fruit the tree its nature shows,
Man makes eternal character in time.
Dies as he lives degraded or sublime!*

—Thomas Osmond Summers.

Old Classmates

College friends where are they. How many from a class of two hundred and twenty-five are now living—how many are dead. Some returned to their homes in distant lands. Some have sought their fortunes in the far West; others have enlisted in the service of their country and probably are now sailing on the billowy deep or stationed at some frontier station, while a very few are situated in proximity sufficient to exchange with them at long intervals a pleasant visit. Some doubtless have died, others probably have timed their time and attention to other pursuits. It would be interesting indeed to know where they all are now.

Occasionally we meet with one of them. It so chanced that during an evening at the

World's Fair at Chicago that beneath the glow of the illumination in the Court of Honor I met with a college friend. I thought I recognized in his face that of a school fellow. He remembered me. We recalled and related incidents of our college life. He gave me a short history of his experiences since our parting on graduation day. It was late when, with reluctance, we parted. I have since heard that he is pursuing his work with the same vim and purpose that characterized him while at college.

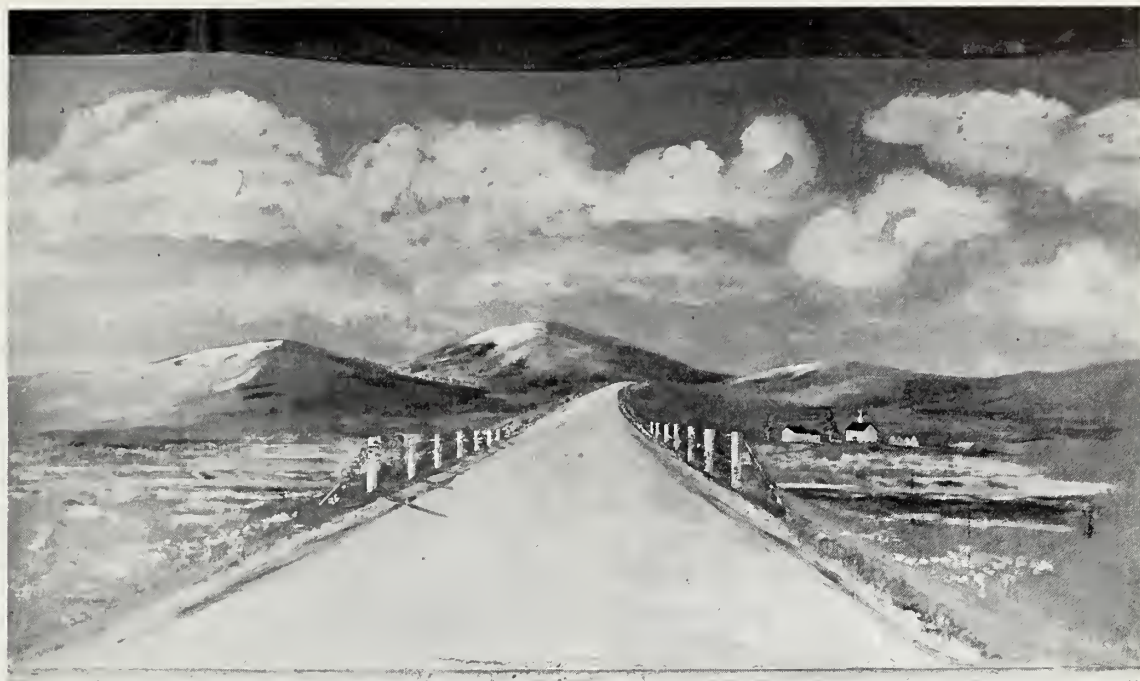
Another I chanced to meet in a busy metropolis. He met me with the same genial smile that suavity of manner as though it had only been yesterday since we parted. But I noticed while his manner had not changed yet time and care had worked its furrows on his face. He told me he was striving for a livelihood and hoped some day to gain distinction in his profession. I wished him success, but how many have lived and hoped in vain. In this busy world of competition honors are hard won. He who sits in idleness and allows the flying moments to pass unimproved will miss the golden opportunity. Now is the time. Use it while we may—tomorrow and it is forever gone. Strike with a force, a purpose, for if we strike feebly and with no object in view, little or nothing is accomplished. If their hopes are bright we seek to trace a means whereby our prospects of the future may be brightened. If their experience in the world has been over a rough and rugged road we endeavor to learn from them a way by which we may elude the pitfalls and snares and make the way smooth and even. How often in our dreams have we revisited the old college. Familiar faces again flit across our memory and as we enter into conversation with some dream land friend we are awakened and sorry to find it but a dream. Yet the very dream is the beginning of reflections and as we lay awake we recall again the coveted vision. The familiar faces; the sombre college walls; the professors, and seemingly almost catch faint sounds of their voices. We again recall their admonitions, their wise council and particularly the scene; the last lecture of the course—entreating us to go forth with determinations to accomplish good and con-

cluding with the hope that should we not all meet again upon earth, may it be granted to us to meet at the feet of the Great Physician where we may all sit and learn. Yet we resolved when leaving college we would return, but alas! duties and care have imposed themselves to such an extent that time is scarce.

We cannot sit now and learn the lessons set before us; tasks that were easy; easy from the fact that some one was ready and willing to explain—but how different now. We are now being taught in the hard school of experience. The rough world is no easy task master—his requirements are inexorable and he accepts no excuses. We must act with judgment and precision. How and when to act is now the question. We have revisited the college but the scene how changed. Familiar faces no longer occupy the seats. The professors, some have died and others fill their place. No one now recognizes you except it be the old janitor whom you have often remunerated with small change for any special attention shown. The lecture while interesting is almost the same as years ago. I shut my eyes and the familiar voice of one of the senior professors seems to erase the lapse of time and I imagine I am still a student; still sitting on the hard unupholstered benches. The professor delivers his lecture with all his old time vigor and enthusiasm. The passing years seem to have made but little impression on his constitution. His gesticulations are the same, the stamp of his foot as he emphasizes some point of special importance, the same nervous cough, the same courteous bow as he concludes his lecture, all bring back recollections and thoughts. Thoughts of the examination which I approached with some timidity, but, that timidity has passed away because I do not fear him now. However, my respect for his character and admiration of his learning is somewhat increased to what they were then. A noble mind, a staid untarnished character are acquisitions devoutly to be wished for. They are not formed in a year but are the work of a life time.

Memories

The hospital: what a sensation of awe came



Painting by Dr. Hopkins for the back curtain of the Spring Community Hall, Milton.

over us when we first entered it at the beginning of our college course. The amphi-theatre with its tiering seats crowded with eager students. The assistants clothed in spotless white coats and aprons busy preparing instruments and dressings for the use of the clinic in arena. Soon the busy hum of the students cease as the professor makes his appearance and announces the case for operation. The smell of ether pervades the atmosphere; the patient is carried in and the operation begins. How careful and with what technique every detail is followed. A weird half dreamy sensation steals over us as we catch the first glimpse of blood, but we soon regain our composure and grow deeply interested. How brave, we reflect, is the man who has the nerve to assume such responsibility. It is easy to sit and look upon one who operates, but how different when you hold the knife in your own hand. The responsibility when shifted from other shoulders upon your own falls with all its significance. The anxiety of which you knew nothing then haunts you now in your dreams and disturbs your slumbers. Yet through experience we grow somewhat accustomed and may approach

tasks which seemed formidable and uninviting with confidence and some assurance of success. How many from the class of two hundred and twenty-five have gained distinction as surgeons or practitioners? We read contributions to Medical Journals headed with familiar names—are they my college friends? Now and again we hear of one who has gained distinction—it is a reminder that we are still trudging along and have not made the most of life. It is an incentive to new effort, new resolutions, new resolves. By what means, we ask, can we advance ourselves and the cause of the profession. We reflect and try to console ourselves by arguing—we can not all be professors or teachers, yet we can do something. We can act our part nobly; each in his little sphere may contribute his mite be it ever so small. It is the little things of life that contribute largely to success. We must begin at the bottom and climb gradually. The top cannot be reached at a single bound. Distinction and honor are won by hard honest blows—by persistence and perseverance and he who endeavors to obtain it by other means will meet with disappointment.

The scenes of college we cannot live over again only in memory, yet we never recall them without pleasant recollections and thoughts. We forget that we are growing older. We look upon the surrounding world as a moving changeable substance, forgetting that we are moving and changing with it, but the fact will be impressed; impressed upon us when we meet with some friend of college days. We are changing—imperceptably—for things that interested us years ago have lost their charm and we seek after other and different fancies. Different surroundings—new aspirations have molded our characters into different forms. We cannot sit idle now and recall the frivolities of youth and think it pleasure, but duty calls to important tasks and we find ourselves gradually drifting into the ways of the world, seeking its empty honors, its pleasures, and likewise reaping our share of its responsibilities and cares.

The Physician's Sphere

The physician, to some extent, is a public man. We have often debated to ourselves pro and con whether the physician is justified in taking an active part in public interests. If the physician attends strictly to his professional business he has little time to devote to other issues. But if he be a man of means and not depending upon his own exertions for a living he may, we admit, be an interested person in local and national affairs. But, accepting the Country Doctor in the aggregate, few are benefited by dabbling in politics. They neglect their patients, sacrifice their practice and reap no reward financially or honorary. When the physician is placed before the public asking its suffrage he then becomes a target at which every scape goat may throw his slander and abuse. Some man from whom you have endeavored to collect a bill will denounce you as dishonest. Others will hurl epithets far from complimentary and even your nearest friends may grow doubtful of your election and insinuate they wished you had waited another year before offering your name as a public benefactor, while you wish from the bottom of your heart you had refused the nomination and solemnly vow when you get out of this predicament no amount of argu-

ment or persuasion will induce you to enter the political arena again. As a citizen you are interested in the affairs of your town. You would make a very useful member on the Board of Education; the people think so—and you are elected. A new school building is to be located and erected or some public improvement is advanced. Do the very best you can—some will take exception to your policy and remain forever your most bitter antagonist. Yet we may be censured as being selfish and unpatriotic should we not take an active part in local and national affairs. We, as other men, do owe our influence for that which is good and believe that physicians generally do take an interest and endeavor to advance those principles which they believe to be best for the State and Nation. But we must admit that a safe distance from active operation is most conducive to self composure and comfort.

The Distaff Side

The physician's wife would doubtless be a great adjunct, but as the writer is yet living in single blessedness can say nothing practicable on the subject. A physician's wife of one of our Western states has written a very able and interesting book and we dare say she has handled the subject better than a novice, in fact, the writer does not know what he would do with a wife at all. Doubtless they are very essential to a physician's success. They would be a very useful acquisition; they could sew on buttons; arrange your office and keep the house in ample order. Your books, papers and etcetera which you have lain promiscuously around but know exactly where to find them she could place carefully away where you may never see them again. Whatever her faults, let us hope she is congenial—she is charitable and makes due allowances for all your short and long comings; she is possessed of an amiable disposition, no amount of disappointment will ruffle her serenity, she is always the same good natured creature; in sunshine or in storm she always maintains her equilibrium. She is beautiful to be sure, one of such disposition could be nothing but beautiful in both body and soul, and as you both sit by the evening fire your hearts glow into warmer love, true genuine love, that does not allow the trials

and cares of the outside world to molest or disturb. The home we imagine is the only place where one can seek refuge and find true solace; away from busy care; away from vexations and difficulties; away from disease and suffering.

But! suppose unrelenting disease dare pass your own threshold—what a burden now rests upon your mind. You visit your patients, prescribe, and are away; not so now. How intensely interesting the patient if it is your wife. How carefully you watch that face lest it lose its hue, that eye lest its brilliancy fail, that pulse—is it still full and strong, the temperature—does it rise or fall, that breathing—is it hurried or slow. You step noiselessly about the room. You are ever at her side ready to administer to her wants. Weeks pass slowly by. You are almost exhausted mentally and physically, yet you do not know this until the critical moment is passed, then you realize your need of rest. She gradually recovers and you are ushered into a new world as it were.

You again take interest in your work—the world moves on in its accustomed way. Then again you have married well and of a highly respected family. Her father or probably an uncle is sick and she has large expectations. How gratifying to dream that some day you will be raised above the drudgery of life. Your patients now are of a better class—you can give more time to the demands of society and not lose the prestige of your practice. You never could expect her to move in the higher circles, society forbids. What is true worth in contrast to the worthliness of gold? Your riches may take wings and fly away, but true worth remains. Society may pass you with a cold shoulder yet there is warmth and affection by your own fire side. The world may speak harshly and press with unrelenting hand, yet there is one in your own home who always speaks kindly, always ready to chide your fears, to give a word of encouragement. She is kind because she loves you. To her you can reveal the secrets of your heart, your aspirations, your hopes, and from that beautiful face you draw encouragement and strength. Who

cares what the world may say or what tasks it may impose, you know that in the precincts of your own home you have a wise counsellor, a true and ready friend.

Two souls that live in perfect harmony; that vibrate like the strings of an Aeolian harp, and when trials and difficulties assail give forth sweet sounds, dispelling discordant strains which the world would like to ingratiate. We imagine now that we see her graceful form busy with her household care, yet always meeting us with the same smile, the same welcome, and when worn with the cares of the day tired and exhausted and can even make aspirations for political honors. But possibly she is poor—you would like to prepare for her a home richly and elegantly furnished. How beautiful her form would appear clothed in costly garments. How it would buoy her sad heart to know that now she can appear in her true light. She has longed to better her station in life, has so lived and hoped. She is confiding, honest and true. She seems to reflect your own thoughts as you casually catch a glance from those brilliant eyes. You have known her for years, you have watched her emerging from girlhood developing into womanhood her qualities growing on your mind for their sterling worth. You have felt your heart palpitate at the mention of her name yet you dare not disclose the emotion—you gradually feel yourself being drawn by an irresistible power—the power is partly within partly without. That voice, that perfect form, those fine features of her face, that genial social nature, that light buoyant heart, that mind free from anxiety and care. But a kind relative suggests that her station in life is of a lower strata and it would be a condescension on your part to share your lot with hers. Society will look down upon you. Your rich patients and their wives would not consider her their equals. You would be debarred from their society. You return home—that sweet face with its radiance so full of meaning bends over to administer words of approval and encouragement. The book which the writer has been reading falls from his hands, he is suddenly awakened—he has been dreaming.

Concluded in August Issue

MEDICAL MANAGEMENT OF MULTIPLE SCLEROSIS

- Multiple Sclerosis is a treatable disease with realistic predictable remissions seen in 76% of an unselected group of 100 patients. Prerequisites to successful treatment are a well organized hospital clinic with medical and diagnostic facilities. Most important of all, however, is a department of physical medicine and rehabilitation with a trained and sympathetic personnel in physical and occupational therapy.

GEORGE J. BOINES, M.D.

The multiple sclerosis patient has, for many years, been relegated to the "unfortunate", "incurable", "untreatable", and "learn to live with it" category of neuromuscular diseases. This iatrogenic defeatism and dismal approach has been changed in the past few years as a result of new clinical and laboratory research developments.

The fact that the exact etiology, the prevention and the cure of multiple sclerosis are unknown, is no logical reason why we, as family physicians, should not treat the pathology and the resulting subjective and objective symptoms. In many instances these symptoms disturb the patient's emotional and physical stability, upset his vision and his genitourinary system, and incapacitate his over-all coordination of speech and locomotion.

We are trained in the management of the total patient, therefore we must take the initiative and the responsibility in planning the course of therapy as it is indicated in each case as soon as the diagnosis is made. The patient and his family are apprised of the diagnosis and the hopeful results which have been obtained by a positive program of therapy. Most of the management centers around the

general physical condition of the patient and the early request for consultations in evaluating the vision, urological, emotional, and muscular problems. In the past ten years I have applied these principles of complete medical and physical management to 200 multiple sclerosis patients.

My treatment consists of injections of methyl prednisolone intrathecally as outlined in this journal by previous communications.*

A high protein diet is ordered and the common allergic irritants, including alcoholic beverages and smoking, are omitted. Physical and occupational therapy directed toward the coordination of movement, stretching of contracted muscles to full range of motion of all joints, gait training, and functional training into the activities of daily living are a very essential part of the management. Steroid injections without the physical medicine training are of little, if any, lasting value. Corrective orthopedic shoes are needed by most patients and such aids as drop foot braces, canes of various types and pick-up walkers are used as indicated in order to keep patients ambulatory and independent. Resistance exercises are contraindicated because they increase muscle spasm.

Dr. Boines is Director and Attending Chief, Department of Medicine, St. Francis Hospital, Wilmington.

*Delaware Medical Journal August 1961, August 1963, October 1964.

Appropriate medications are prescribed for emotional and personality problems, as well as for nutrition, constipation, relief of fatigue and spasticity.

An optimistic but realistic approach is imperative in order to assure patient and family cooperation. The incentive to work is definitely a part of my therapeutic program. Patients must try to work at home or at their usual occupation when possible as it keeps them active and independent.

Eighty per cent of the first 100 patients who have been under therapy since 1958 have made excellent and good functional improvement.

TABLE I

Table I shows the number of years the patients had multiple sclerosis before my regimen was initiated and the extent of improvement in each group.

Duration of M.S. prior to treatment	No. of Patients	Sexes		Improvements			
		Males	Females	E.	G.	F.	P.
1- 5 years	25	10	15	11	6	6	2
6-10	27	10	17	11	11	4	1
11-15	20	3	17	9	6	3	2
16-20	11	4	7	7	2	1	1
21-15	12	3	9	4	5	2	1
27-28	2	0	2	0	2	0	0
32-39	3	1	2	0	2	1	0
	100	31	69	42	34	17	7
Males		31		15	9	4	3
Females			69	27	25	13	4

Table I shows the number of years these patients had multiple sclerosis before they started treatment. Note that there are more females than males but the per cent of improvement was about the same. The ages ranged from 21 to 66 years with 73 of them being between 31 and 50 years of age.

Of the first 100 cases treated, 25 had the disease 1 to 5 years; 27 - 6 to 10 years; 20 - 11 to 15 years; 11 - 16 to 20 years; 12 - 21 to 25 years; and one patient each had it for 27, 28, 32, 33, and 39 years.

Table II outlines the type of improvement obtained in these patients. It will be noted that 12 patients returned to full time work after being retired as completely disabled and one patient who ambulated with two Canadian crutches and also used a wheelchair, returned to full time work within 4 weeks.

TABLE II

Improvement after treatment

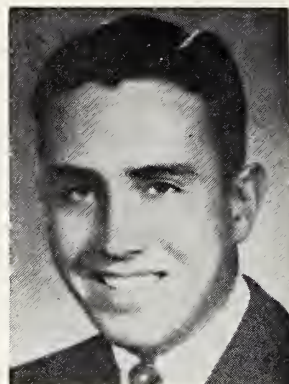
Functional Improvement	Number
Improved Ambulation (7 discarded former aids)	22
Ambulation improved with aid (10 former wheelchair cases) (5 formerly bedfast)	35
Still in wheelchairs—arms improved (6 formerly bedfast)	23
Returned to full time work (2 former wheelchair cases)	13
No improvement	7
Total	100

The general practitioner will find it a rewarding and satisfying experience to see his multiple sclerosis patient rehabilitated into a functional, productive, and comfortable individual with the dignity which goes with physical independence.

We all understand that we have no cure for multiple sclerosis but neither do we cure CVA, diabetes, cerebral palsy, cardiac disease, malignancies, Leukemia, and a host of other diseases which we patiently treat daily in our offices and hospitals.

New Members

Peter R. Coggins, Temple University Medical School, '56, is a Virginian by birth. He obtained his Delaware license in 1963. Specialty: Plastic and Reconstructive Surgery; Office: Professional Building, Wilmington. Dr. Coggins is a bachelor and has a fascinating hobby—horses; breeding, training and the steeplechase. See page 218 for his write-up.



James G. Waddell, M.D., McGill University, '55, was born in Madison, Wisconsin, grew up in New Jersey and served two years in the Army. He interned at the Delaware Hospital and obtained his Delaware license in 1956. Specialty: Orthopedic Surgery; Office: 1205 Gilpin Avenue, Wilmington. Dr. Waddell likes swimming and music—he is an accordion player. There is one four year old daughter in the family.

Rudolph Nyhoff, M.D., was born in Holland and received his medical education at Leiden University, graduating in '54. He came to the United States in 1955, served his residency at the Memorial Hospital and obtained his Delaware license in 1963. Specialty: Internal Medicine; Office: 4546 Pickwick Drive, Wilmington. He and his wife have two sons, aged 8 and 10. Dr. Nyhoff enjoys listening to music for relaxation.



Sava C. Kara-Eneff, M.D., University of Hamburg, '40, was born in Bulgaria. Delaware license: 1962; Specialty: Pathology; Office: Delaware Division, Wilmington Medical Center. Dr. Kara-Eneff pursues the study of painting and medical illustration as a hobby. There is a 13 year old son to round out the family and they all love to travel when it's possible.



President's Page

AN APPRECIATION OF LAWRENCE C. MORRIS, JR.

Immediate Past Executive Secretary,
Medical Society of Delaware

Ten years ago Larry Morris became the first Executive Secretary of the Medical Society of Delaware. Growth made the position necessary: more people, more doctors, more legislative problems. Volunteering doctors could not find time to do well the myriad duties.

A doctor who has worked closely with Larry throughout the decade of service has this to say:

"One of Larry's chief assets is his ability as fulltime executive to give to any doctor or to any committee his opinion and knowledge without in any way seeming to control or create the policy of the Society. He is always extremely careful to give us the advantage of his knowledge but at the same time refrain from the creation of policy on a staff level. Once policy is determined, he considers it his duty to carry it out whether he agrees with it or not."

This administrative competence and integrity contributed to unprecedented accomplishments for the Medical Society and its committees in the Legislature of Delaware; in dealings with Blue Cross-Blue Shield, particularly in exploring modern trends of prepayment in relation to service benefits versus indemnity benefits, and in other fields of endeavor.

During the ten years just ended, the Journal of the Medical Society of Delaware has had many problems. Larry dealt well with these, especially in the business affairs.

In more recent years the marked increase in third party payments for professional services has required many conferences with industry, labor, insurance carriers, and government. Without Larry, the committees and medical representatives of the Society could not have performed so well nor accomplished so much.

Larry was dedicated to the work and to the best interests of physicians. It was never too late in the day for him to be consulted. Many evenings were spent traveling throughout the State, visiting County Medical Societies and other groups. This dedication and willingness to give of his time did not cease upon his marriage about two years ago and for this we send a bouquet of appreciation to his wife, Meredith.

Larry Morris will be missed by his medical associates. We wish him well on the national scene. We hope that his new colleagues, medical and administrative, will observe in him the abilities we have recognized, which have given us great satisfaction. We hope that he will derive satisfaction from this appreciation and from the knowledge that it was he who developed for the first time an effective administrative organization within the framework of the Medical Society of Delaware.

A. M. Gekret



Delaware Academy of General Practice

FALL LECTURE SERIES

The 1966 fall lecture series sponsored by the Delaware Academy of General Practice offers some changes from its usual form. We hope these changes will appeal to our old supporters and will entice new applicants for our AAGP approved twenty-four (24) credit program.

First of our changes will be the site. We will be using one of the newly created lecture rooms in the Delaware Division of the Wilmington Medical Health Center. The classes will be at one o'clock (1:00) in the afternoon and end at four o'clock (4:00), with a twenty (20) minute rest and refreshment period in the middle.

At the request of many, the next change is in the number of weeks of involvement. The course will last from September 21st, 1966, through and including November 9th, 1966. This represents eight (8) Wednesdays instead of the previous format of ten (10) Wednesdays.

Another change will be in the presentation of the general topics, rather than one heading. This is a design that should not allow any one to tire of the subject matter presented. The first topic will be office practice gynecology and the second general topic will be the application of psychiatry in marriage counseling.

Finally the most interesting and captivating change will be in the form of each Wednesday's presentation. The beginning of each afternoon's presentation will be a lecture to be followed by a live case study and finally a discussion of the patient's case and the lecturer's material.

We hope this innovation will whet your desire to participate. Write to our executive secretary to reserve your seat at the lecture series. Registration fee is fifty (50) dollars. An outline of the lecture schedule is listed below in program form.

PROGRAM

Sept. 21: *First Patient Interview of the GYN Patient with History and Physical*

Lecturer: Lawrence E. Lundy, M.D., Associate in Obstetrics and Gynecology, Temple

Sept. 28: *Office Procedures—Things to Observe and Do in the Office*

Lecturer: Gerald Zatuchni, M.D., Clinical Instructor, Obstetrics and Gynecology, Temple

Oct. 5: *Diagnosis and Differential Diagnosis Referrals—What to Expect from a Referral*

Lecturer: Russell De Alvarez, M.D., Professor and Chairman, Department of Obstetrics and Gynecology, Temple

Oct. 12: *Psychiatric Considerations of the GYN Patient*

Gynecologist's Viewpoint
Lecturer: Michael J. Daly, M.D., Associate Pro-

fessor, Obstetrics and Gynecology, Temple
Psychiatrist's Viewpoint

Lecturer: Harold Winn, M.D., Assistant Professor of Psychiatry, Temple

Oct. 19: *The First Interview*

Lecturer: Thomas L. D'Zmura, M.D., Assistant Professor of Psychiatry, Temple

Oct. 26: *Problems of the Family*

Lecturer: David Rubenstein, M.D., Assistant Professor of Psychiatry, Temple

Nov. 2: *Problems of Consultation and Referral*

Lecturer: Burton A. Fleming, M.D., Associate in Psychiatry, Temple

Nov. 9: *Problems of Sex*

Lecturer: H. Keith Fischer, M.D., Associate Professor of Psychiatry, Temple

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The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



PROPOSAL

Establishment of a Joint Committee

The medical and pharmaceutical press has for many years discussed the areas which produce estranged relations between the two professions. A recent lay publication focuses on one of the most important problems which we face, namely physician-owned pharmacies. It is also interesting to note that the Minnesota Delegation to the recent House of Delegates of the American Medical Association has attempted to rectify the guide lines which have been promulgated by the Judicial Council of the AMA. The delegation's resolution outlines the problem and has attempted to show why it is of prime importance for each of the two professions to concentrate on its chosen endeavor.

In our state we are fortunate not to have any operation which falls into the above category. However, in the era of enlightened patients and patrons, it is important and imperative that clear guide lines of our individual professional activities be restated and re-evaluated. Even though codes of action are not accepted by all practitioners, it has been clearly shown that the majority of medical and pharmaceutical practitioners desire to abide by the rules and regulations laid down by the officers and members of professional societies.

The fact that Delaware is free of physician-owned pharmacies does not leave us free from inter-professional problems. Perhaps the greatest area where discussion is needed is in

the dispensing of medicinals from a physician's office and the counter-prescribing by the pharmacist. With today's sophisticated medicinals and an era of specific chemotherapeutics, it is difficult to see how a physician can adequately provide his patient with pharmaceutical service, from his office. If we reflect on only the labelling requirements under the Federal and State Codes, we see that approximately 85% of the medicaments dispensed from a physician's office are improperly labelled.

The other side of this coin, exhibits the pharmacist who is reluctant to refer a patron who needs medical attention. There are many pharmacists each day who do turn down the opportunity to sell a proprietary preparation and insist that the patron seek medical advice. However, the estimate that these professionals are in the minority is a well established fact.

These thoughts are only offered to stimulate the officers of county and state medical groups to accept the offer of the Delaware Pharmaceutical Association to appoint a joint committee to discuss the problems of mutual interest and to prepare guide lines and a code of action. Pharmacy has requested this forum many times. I think medicine should now make the move before persons alien to our interests do.

DAVID J. KRIGSTEIN, *Pharmacist*
Secretary, Delaware State
Board of Pharmacists

Editorials

OUR CREED

All physicians upon entering the practice of medicine accept the principle that the welfare of the patient comes first and is in a class by itself over and above any other consideration. Most physicians prefer to practice their profession along the established lines of free enterprise. There is no doubt that this right to so practice is being questioned. It is regrettable, however, that the medical profession is such a handy whipping boy. Even our colleagues in free enterprise on occasion will join in the abuse. The newspapers in general have been most unfair in their reporting of Medicare. An editorial in the Wilmington Morning News on July 6 entitled "Right to the Bitter End," is critical of the medical profession for, in their own words, avoiding "paperwork and red tape." This illogical viewpoint—having one person do all the paper work rather than spreading it out—seems as though the editor is going far out of his way to criticize.

For the past few months, the Warner and Swasey Company of Cleveland, a manufacturer of precision machinery, has published a series of advertisements in lay journals on the general theme of rights, obligations, and free enterprise. We used one of these ads as a "guest editorial" recently and are indeed indebted to these men of high principle.

THOSE WERE THE GOOD OLD DAYS

On September 23, 1965, Dr. W. O. LaMotte, Sr., one of the elder statesmen of our own Society, sent the following letter to the Wilmington Evening-Journal:

"It is time, I think, to speak out in defense of police who protect us even with their lives against criminals, mobsters, and others who cry out "brutality." Such criminals as these have regard only for their own skins, and accordingly they should be given some of their own medicine.

When I was in medical school, rioting broke out in Philadelphia. The authorities asked

the University of Pennsylvania for 200 students to serve as special policemen.

I was asked and I am glad I accepted. I remember the last part of the instructions the chief of police gave us when he said he didn't want any of us to come back in a worse condition than the mobsters.

I was instructed how to use a club and while we didn't even have to make an arrest, whenever any trouble seemed to be starting we nipped it in the bud. Within a short time law and order was restored and there were no repeats.

I do not recall any preachers throwing themselves down in the highways nor any of the clergy picketing. Perhaps in those days the preachers were more in their pulpits preaching the word of God. There were no Martin Luther Kings and no notorious wolves in sheep's clothing. I do not recall any clergymen in those days who advocated breaking the law.

Fortunately at least some of the clergy today are opposed to such things. For example there was a sermon by Rev. Dr. Robert B. Walls, rector of an Episcopal church in LaJolla, Calif., in which he deplored the fact that many clergy of his church "including both priests and bishops" have openly and officially advocated defiance of the law under certain conditions.

In contrast to some of the things we are exposed to today, I have tried to give a personal account of a period when we looked up both to the clergy and to the courts, but that period was many years ago."

STOP-LOOK-LISTEN

In the heat of summer, heated controversy on subjects such as Medicare, antitrust laws, and so forth, could well erupt at any moment into acrimony which would be regretted by all parties when the cool autumn arrives. Let us stand firm in our basic beliefs but refrain from making any statements in haste that might better be left unsaid.

Hobbies

RACING AND BREEDING THOROUGHBREDS

or

The I. R. S. Goes To The Track

PETER R. COGGINS, M.D.



The Pace Car Couldn't Jump!

To most people, "horses" bring to mind only two things: a ten-year-old's pleas for a pony or the local "bookie." Somewhere between these two lies thoroughbred racing and breeding, incorporating what J. Paul Getty calls "the fine art of combining hobby and business with the attendant financial rewards of connoisseurship." This unique hobby-business combination offers a tax haven as a depreciable situation against straight medical income and yet returns dividends and continues to appreciate.

Breeding—anything but people—fits this picture, but, thoroughbreds have the advantage of being in shorter supply each year because of the expansion of racing seasons by state governments bent on extracting 12 to 15% out of every dollar passed through the pari-mutual machines. For example, Florida is now considering a year-round racing program. New York races nearly 300 days per year, and nearby Maryland even withstands January snows, obviously not for "the improvement of the breed."

For some unknown reason, most Americans take great delight in the delusion that racing is "fixed." Unfortunately, the nature of the sport is an uncertainty and just how certain it is, is reflected in the odds. I am always reminded of the classic remark by one amateur handicapper who, after looking over the entries one afternoon remarked, "There isn't a

horse in this race that can win." So, when a 70-1 shot came in and the betting favorite at 2-1 was still up the track, the obvious conclusion was that the race was "fixed."

This was quite a reality for me some seven years ago when an Argentina flat horse that I had operated on for a bowed tendon (a severe tendonitis), trained and rode myself in the race, came in second in a steeplechase race after a previously phenomenal race record. The evening before the race, he was "purchased" in a Calcutta by some overzealous Cincinnatians who wanted to include me in the syndicate. I've never bet on a horse that we have trained or ridden since there is no point in it if you win the purse and plate; and, if you lose, it places you at that much more expense. The next day, we were the betting favorite, but unfortunately, no one in the syndicate anticipated my horse's reaction (he was a stallion) to a mare stabled in the same barn. He evidently got little rest, stall-walked the entire night. The next day "he ran out of gas" with only a quarter of a mile to go in a three-mile steeplechase, after leading the entire route. To this day, my Cincinnati friends feel I deliberately threw the race. If any race was a "sure thing," this one was, but you never know what the other fellow has nor for that matter, what's on your mount's mind.

Interestingly enough, with this particular

horse, I had tried to be somewhat scientific and programmed out his entire work schedule months in advance, worked him against a pace (a Ford Thunderbird) down the median grass strip on Route 40 in Ohio, using the car speedometer to maintain the desired speeds and distances. Since I was in the Air Force, we even used the jet strip at the Air Base and, barring an occasional jet tanker, landing during the six a.m. workouts, all went well. I've never known anyone who had the advantage of a three-mile level and rolled straight away grass strip to gallop on.

Drugs and Horses

Drugwise, it seems as though most trainers have used experimental drugs before the medical world knows of their existence. Most of the drugs are of the steroid or anti-inflammatory nature, since leg problems are the bane of most thoroughbreds. I found the now famous DMSO, 2½ years ago at Delaware Park being used as a new magic for bowed tendons. Butazolidin wafted its way into steeplechase circles long before any real interest was evoked in it in human medicine, and the newest agent Indocin was a favorite at the tracks last year under the name "J.P.'s" (jungle pills), since the urine tests had not picked it up as yet. However, track policing is strict, and the chromatographic techniques used in the testing labs rarely miss a new agent. Many of you will remember the \$70,000 winning purse that was taken from Crimson Satan several years ago at Delaware Park, when the urine test showed traces of Butazolidin, a prohibited drug at that time.

Plastic surgery leaves no time for training, and in fact, the past year I've ridden only once and been content to follow the breeding end of the sport. Interestingly enough, there are many physicians engaged in this aspect of the game. Dr. John Reinhold and Dr. James Krygier here in Wilmington, and Dr. Eslie Asbury, head of Otolaryngology at Cincinnati General (a breeder of some fine stakes horses at his Forest Retreat Farm in Kentucky), to name just a few.

What's involved in breeding and how does it work taxwise? Well as an example, when

you purchase a broodmare you can depreciate her roughly 10% each year. (Most mares are first bred about five years of age and produce on an average to about 15 years of age.) All stallion service fees, as well as board, are deductible. Boarding facilities for mares are readily available locally at nurseries around Middletown, Delaware, and Cecilton, Maryland, and, of course, Lexington, Kentucky and Ocala, Florida (for those that dislike the cold winters). They will also get your yearlings ready for the auction sales held each year at Lexington, Kentucky in July, Saratoga, New York in August and Timonium, Maryland in September. On an average, a yearling will bring about two to three times the price paid for the stud fee—unless the mare is particularly wellbred with lots of "black type" i.e. her ancestors fared well in stakes races. Then it's difficult to figure what they'll bring. A few cases in point: last year, a particularly fine yearling filly brought \$125,000 at Saratoga, while a colt brought \$170,000 at Keeneland (Lexington).

Off to the Races

Your yearling hopefully is now off to the races, and he's someone else's worry. If he's successful and wins, you will receive a check as most states have provided for a breeder's award, especially in stakes races as a sort of extra dividend. If you are unusually successful—lucky might be a better term—your yearling might get to one of the classics, and then the awards run in the five-ten thousand dollar range.

What becomes of your mare? Well, you've bred her again trying to find a mating that will combine characteristics you know the buyer wants; speed, staying ability, consistency, soundness and an even disposition. Some blood lines do not race well over six furlongs, others have tendencies to sulk, and run brilliantly one day while sulking the next, and some are notorious for bad legs or laryngeal stridor. I always think of Jack Price's famous Carry Back. "I bred the best I had (a \$300 mare) to the best I could afford, (Saggy, a stallion who stood in Maryland at the time for \$300).

If your yearlings continue to give a good account of themselves, your mare increases rapidly in value! your yearlings bring more at the sales and, should you decide to get out of the "hobby" you are taxed at capital gains rates.

Major Keene, one of the past greats of Kentucky breeding, liked to say that a good mare was the best insurance and inheritance anyone could have. This thought probably generated the Hollywood version of the mare that foaled the colt, who won at the County Fair and saved the farm from foreclosure.

Now a word of advice—if you're interested, don't walk in and tell your wife you're going to

buy a race mare—because all she will envision is the children's college education evaporating. Some weekday take her and the family to Delaware Park some morning at six a.m. or so, where you will have the grandstand all to yourself and watch the vigorous trainings, breaking out of the gate, the early morning sprints, and on Tuesdays and Fridays the steeplechase horses working over the jumps. The delusion that racing is somehow rigged will evaporate and you will have a "hobby-business" combination that can become an enjoyable enterprise. You might even breed the Kauai King of 1970. If so, you will establish a "trust fund" that is difficult to match with the current I.R.S. regulations.

RADIATION TO EXPLORE PYRAMID

One of the most persistent beliefs of archaeology—that the real burial chambers of the Pharaohs have remained hidden in the Pyramids for 4,500 years—may be either disproved or supported through the use of modern scientific techniques. A cooperative U.S.-UAR investigation of this possibility will be made under a recent agreement between our government and the United Arab Republic. Scientists will use an ingenious technique to x-ray the Second Pyramid of Chephren, at Giza, to determine whether undiscovered burial chambers exist in the huge mass of stone. They will use cosmic ray muons, nuclear particles of the meson family, as their x-rays. As the muons pass through matter, they lose energy, and are ultimately absorbed. Modern detectors, called spark chambers will be placed in the known subterranean chamber beneath the Pyramid. The spark chambers will record cosmic ray mesons reaching the detectors from all directions.

The project is primarily one of proving out the *technique* rather than in the archaeological search for chambers which centuries of investigation have failed to uncover. If the method is successful, it may then be possible to examine other pyramids such as the great Pyramid of Cheops, also at Giza. The basis for the experiment is the deception theory which holds that Egyptian Monarchs, wary of grave robbers and anxious to preserve their bodies for immortality, ingeniously planned their pyramids in such a way as to mislead future generations into believing that the tombs had already been sacked.

After simulated experiments carried out here, the equipment will be taken to Giza where spark chambers will operate around the clock for several months. UAR members of the team will change the magnetic tapes every day. Computer analysis of this data will be made in Cairo. The project is expected to last about 18 months.

In Brief

Milk Radioactivity Report For Delaware

Tabulations showing latest available data on radioactivity—issued by the Department of HEW, P.H.S. and collected by the National Pasteurized Milk Network—gives the following figures for Wilmington, Delaware:

- I *Average Daily Radionuclide Levels for Feb., 1966* Iodine 131: <10
Strontium 89: <5 Strontium 90: 13 For March, 1966
- II *Twelve Month Total of Average Daily Amounts of Specified Radionuclides in One Liter of Milk:*

:As of February, 1966	:As of March, 1966
Strontium 89: 1,080	Strontium 90: 6,033
	Iodine 131:

Speakers On "Doctor's House Call"

Speakers on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Aug. 2: Forrest G. Hawkins, M.D., *Childhood Contagious Diseases*; Aug. 9: Herbert M. Baganz, M.D., *Strokes*; Aug. 16: Gustave K. Berger, M.D., *Renal Failure*; Aug. 23: L. William Ferris, M.D., *Urinary Tract Infections*; Aug. 30: Robert Waterhouse, M.D., (to be announced).

AAP Report On Control Of Infectious Diseases

A revised report, also called the *Redbook*, has been released by the American Academy of Pediatrics which recommends the latest procedures for immunization against infectious diseases. The *Redbook* contains a completely re-written section of the use and abuse of immune serum globulin, a complete new section of parasitic diseases, and a revised and updated section on drug dosages. Copies may be obtained from the Academy's Headquarters, 1801 Hinman Avenue, Evanston, Ill. 60204. Price is \$1.50.

Epilepsy Tally For Delaware

The Epilepsy Association of Delaware has reported on the results of their state-wide census on epilepsy. The classification is as follows: (a) Grand Mal—1,039; (b) Petit Mal—391; (c) Psychomotor—260; (d) Other—150; (e) Unclassified—142. The report stated that though hard to break down figures as to age, a rough survey indicates an even division between children and adults. Also, that if 517 cases (about 25%) were added for doctors not heard from and for cases that do not come in the open, the total figure would be about 2,500—about one half of 1% of Delaware's population.

Hormonal Therapy

The use of estrogen and progesterone by many clinicians to offset effects of menopause, may also reduce incidents of breast and genital cancer, according to a 13-year-old study of women undergoing the treatment whose ages range from 36 to 54 with a median age of 46 at the outset. Of 158 patients studied, none developed cancer and all were spared the climacteric symptoms and the deleterious metabolic effects of the menopause. Results of the study recorded in *International Surgery*, (May, 1966) paralleled findings in other recent trials in one major respect—that estrogen-progesterone therapy helps to keep post-menopausal women physiologically and physically young.

Out-Patient Services Committee Program The next four meetings of the Wilmington Medical Center's Committee for Out-patient Services are listed below. The Committee meets weekly at 9:30 a.m., Library annex—Nurses' Residence, Delaware Division. Everyone is invited to offer information and to attend any session.

Date	Topic
August 10, 1966	16. Surgical Out-Patient Services II A. Subspecialty Clinics 1. Chiropody 2. Dental 3. Otology 4. Nose and Throat Clinic 5. Fracture 6. Orthopedic 7. Plastic Surgery
August 17, 1966	17. Surgical Out-Patient Services III A. Subspecialty Clinics (continued) 8. Proctology 9. Urology 10. Varicose Veins 11. Ophthalmology
August 24, 1966	18. Obstetrical and Gynecological Out-Patient Services I A. Clinic (Obstetrics and Gynecology) B. Miscellaneous Procedures C. Overlapping Community Services
August 31, 1966	19. Obstetrical and Gynecological Out-Patient Services II A. Subspecialty Clinics 1. Gynecology Post-Op 2. Obstetrical Post-Partum 3. Child Spacing

Cancer Drugs And Their Results

Yale University School of Medicine has undertaken a study of how cancer drugs work and how they can be made more effective. Detailed observation will be made of cancer patients receiving drug therapy, and highly sensitive biochemical tests conducted to define the absorption, excretion and precise mechanism of action of individual drugs. Radioactive tracers and enzyme measurements will indicate the metabolic pathways of drugs in the body, and spotlight the tissues and organs where specific drugs tend to localize.

In The News

George J. Boines, M.D., will exhibit in the near future on *Multiple Sclerosis*: in San Francisco, at the Congress of Physical Medicine and Rehabilitation Aug. 28-Sept. 2; in Boston at the AAGP, Oct. 10-13; and in Washington, D.C., at the Interstate P.G. Medical Association, Oct. 17-20.

U.S. Public Health Briefs

• A motion picture demonstrating a medical technique that is substantially reducing leukemia deaths due to hemorrhage has been released by the Acute Leukemia Task Force, National Cancer Institute. *Technique of Platelet Transfusion Therapy* was prepared as orientation material for blood bank personnel. The film presents a step-by-step demonstration by a hematology technician of the platelet separation process, portraying a family's role in contributing to a leukemic child's well-being through platelet transfusions. Requests to borrow the film without charge may be addressed to the U.S. Public Health Service Audiovisual Facility, Atlanta, Georgia 30333.

The Month In Washington

A government bill to train more health workers—unanimously passed by the House and sent to the Senate—would also authorize increased student loan forgiveness for physicians, dentists and optometrists who set up practice in poor rural areas where the supply of medical personnel is short or non-existent.

The FDA has issued new regulations tightening the requirements for special diet foods and diet supplements and aimed at providing the consumer with more facts about the foods for weight control, for dietary supplementation with vitamins and minerals, and for other special diet needs, such as controlling salt intake.

The new regulations will prohibit extravagant promotion of “shotgun” multi-vitamin and mineral supplements containing nutrients that meet no dietary need and tend to deceive the consumer. They are scheduled to become effective in December.

Drug Purchase Problems And Policies

A study of this subject has been released by the U.S. Department of HEW. The data provides the source material concerned with the operation of the new Medical Assistance Program authorized by the 1965 Amendments to the Social Security Act, (Title XIX). Copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 at 55c.

We reprint a paragraph contained in this data release to wit: “*Since more than 15,000 prescription drugs are now in common use and since any one of them may be sold under as many as 50 to 75 trade names physicians need simplified methods of selecting those they prescribe.*” The PMA says, this is not so!

Brief Briefs

- The PMA was advised today that the Wholesale Price Index for ethical drug preparations dropped to 94.1 in April and remained there in May. This is the lowest level in the history of the Index which began at 100 in 1961. Information is reported by the *Bureau of Labor Statistics, U.S. Department of Labor.*

- The entire Board of Directors of the Deafness Research Foundation—and their wives—made a significant contribution by bequeathing their inner ear structures to ear research scientists. The ears of the profoundly deaf have been virtually impossible to obtain because of their difficulty in being reached through normal communication.

Anticoagulant Warning

- Patients with atherosclerosis should be aware that some drugs can potentiate the action of anticoagulants leading to serious hemorrhage. Drugs in this list include salicylates, sulfonamides, bowel-sterilizing antibiotics and phenylbutazone. It is reported that phenylamidol hydrochloride should be added to the list. *Connecticut Medicine*, February, 1966.

PHS Brief Briefs

Development of the first effective experimental vaccine against rubella has been announced by two PHS scientists. Surgeon General William H. Stewart said: “The clinical data are very encouraging. Results with this newly experimental vaccine make it possible to predict rubella and its associated birth defects can be brought under control in the not too distant future.” Until now, experimental live rubella preparations have been communicable to uninoculated contacts.

Auxiliary Affairs

WHAT DOCTORS' WIVES DON'T KNOW

There are some things a doctor never discusses with his wife. That's as it should be—as long as money isn't one of them. For trouble goes hand-in-hand with the doctor's wife who knows little or nothing about the family's finances.

In the first place you are headed for trouble the minute you believe the medical myth that medicine is a "get rich quick" profession. You have only to read the papers to learn that the doctor's fee is a large one. Multiply this fee by the 150 patients he sees a week and you can see a large income in the future. When the dollars don't appear as predicted by these figures, you may begin to think that your husband should charge more, or that he insults his patients, or that he is just plain stingy.

Before you go too far with this line of reasoning, why not sit down with him and discuss the subject so popular in America today: "Where does all the money go?" Who ever saw the "going rate" in the headlines—or the "adjusted fee" or the "no fee?" Yet these were the fees paid by the patients your husband treated last week. Also there are always unpaid doctor bills on file. To get a realistic view of the income you can depend on, take a quick glance at some of the expenses which go with maintaining an office. You will see that 36 cents of every dollar collected must be used for salaries, rent, supplies and drugs, telephone and upkeep on his car. This leaves 64 cents—of which about one-third is used to pay taxes. In other words, out of every dollar, he can keep less than half for family living expenses, investments and savings.

The Pennsylvania Medical Society formed a committee of physicians and auxiliary members to prepare a booklet with information readily available in case of emergency or death—*Set Your Affairs In Order*.

This booklet points out the value and wisdom of a physician taking time to compile accurately personal data, facts about his finances—both personal and in connection with his practice, and information about the conduct of his medical practice. The booklet allows space for filling in such data as name address of attorney, location of health, accident and life insurance policies, location of the will, financial information such as savings accounts, securities held and name of broker, mortgages, titles, location of unpaid bills and other similar information. Since most physicians work alone, the booklet also provides for information concerning the medical practice: the names of doctors to be called to care for current patients, location of medical records and how to be handled, location of narcotics tax stamp and ledgers. It is necessary to be aware of the importance of preserving patients' records and under what circumstances they can be released to another physician.

Set Your Affairs In Order has been widely used and has been copied by other county medical societies to provide help for the family of a physician. Single copies are available on loan from the National Headquarters of the AMA Woman's Auxiliary. The booklet assumes that the doctor has made a will. It is, however, a common practice for a physician to die without having made a will. Perhaps there is never a convenient time, or he is so busy with life and death matters of his patients that he forgets this task.

"What you don't know won't hurt you" just isn't true when it comes to money matters. A little time spent discussing money matters will pay big dividends.

Condensed from MD's WIFE March, 1966

MEDICAL SOCIETY OF DELAWARE

1776-1789-1966

177th ANNUAL MEETING

September 25 and October 1, 1966

PROGRAM

House of Delegates

SEPTEMBER 25

Treadway Inn, Dover, Delaware

2:00 P.M. House of Delegates

5:00 P.M. Reception for Delegates

SCIENTIFIC SESSION

OCTOBER 1

Delaware Academy of Medicine, 1925 Lovering Avenue, Wilmington, Delaware

8:30 Registration — Exhibits

9:15 Call to Order — Andrew M. Gehret, M.D., President, Medical Society of Delaware

Welcoming Remarks — Charles Allen, M.D., Vice President, Kent County Medical Society

Report of the House of Delegates — Joseph W. Abbiss, M.D., Secretary, Medical Society of Delaware

9:30 **THE ROLE OF THE OBSTETRICIAN AND OF THE PEDIATRICIAN IN PREVENTIVE MEDICINE — MODERATOR —** Sylvester W. Rennie, M.D., Chief, Obstetrics and Gynecology, Delaware Division, Wilmington Medical Center, Wilmington, Delaware

John W. Greene, Jr., M.D., Professor and Chairman, Department of Obstetrics and Gynecology, University of Kentucky, Lexington, Kentucky

It is an essential role of the obstetrician to plan the management of complicated and uncomplicated pregnancies so that perinatal mortality be reduced to a minimum. Pregnancy initiates dramatic changes in many metabolic processes and these processes are frequently deranged in abnormal pregnancies. Accurate measurements of certain of these changes can be helpful in the determination of the fetal status. Achievements have been made so that these measurements can be routinely performed. Certain chemical tests and physiologic studies are now available to assess the high risk infant. Emphasis will be placed upon the determination of maternal estriol excretion for this has been established as a great help in the management of pregnancies that carry an increased perinatal mortality.

Alexander J. Schaffer, M.D., Associate Professor, Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland

If we are to reduce infant mortality and morbidity significantly we must reduce the rate of prematurity, and, when prematures are born manage them meticulously with respect to hypoxia, hypoglycemia, hyperbilirubinemia, and the prompt recognition and treatment of infections. Maternal infections must be diagnosed promptly and treated specifically. Diabetes in mothers must be treated meticulously and their babies must be delivered at the ideal moment. We must foresee the development of hemolytic disease in the newborn, choose the optimum week for delivery and be prepared to treat immediately when necessary. Mental defect in some offspring can be induced by improper treatment of the mother in various ways which should be avoided, whereas delayed recognition and treatment of hypothyroidism and several inborn errors of metabolism may lead to irreversible mental defect. Finally, both obstetrician and pediatrician can play important roles in the prevention of emotional disturbances and personality and character defect in their charges.

10:30 INTERMISSION — EXHIBITS

11:00 **THE EYE — A WINDOW INTO THE HUMAN BODY**

George N. Wise, M.D., Professor of Ophthalmology, Department of Ophthalmology, New York University, New York, New York

Fundus of the eye is the only piece in the body where an active circulation can be directly observed without some prior operative manipulation.

In studying the natural evolution of certain retinal diseases characterized by new vessel formation, a new hypothesis explaining retinal new vessel growth has been formulated.

Human microscopic material and animal experimentation supporting this hypothesis will be presented.

The possible application of these principles in certain systemic nonocular diseases will be discussed.

11:30 MEDICAL DATA PROFILE FROM CRADLE TO GRAVE—THE FUTURE OF MEDICINE

Harry C. Lawson, Senior Engineer, Information Systems Division, International Business Machines, Gaithersburg, Maryland

Recent advance in information handling systems permit realistic planning for a single medical data system covering the entire population from birth to death. The individual's profile would contain genetic information, congenital defects and a record of childhood diseases. Periodic health data, diet and environmental factors would be included. An important part of the profile would be biochemical and physiologic baseline data taken under normal conditions. Selection, storage and retrieval of data under proper legal safeguards are some of the problems of such profiles. From these files complete medical records or selected summaries of data pertinent to a specific problem could be made available to the physician. Over a period of years this data would become an invaluable national resource for multiple purposes.

12:00 PRESIDENT'S ADDRESS—Andrew M. Gehret, M.D.

Business Meeting

Election of President-Elect

12:30 LUNCH—Host, Kent County Medical Society

1:30 MULTI-SEQUENTIAL AUTOMATED CHEMICAL ANALYSIS—A FAD OR AN URGENT NEED?

Edwin C. Whitehead, President, The Technicon Company, Chauncey, New York

Today, more than 150 clinical laboratories are providing multiple sequential analysis on all sera submitted for routine analysis on all admissions.

Surveys have been conducted on the significance of findings of this unsolicited laboratory information.

A brief review of how sequential analysis is accomplished will be presented. The significance of the data and its implications on the concept of ranges of normal values and on detection of subclinical disease will be discussed.

2:00 THE SKIN—SOME DIAGNOSTIC SIGNS OF SYSTEMIC DISEASE

Frank E. Cormia, M.D., Clinical Professor of Medicine (Dermatology), Cornell University, New York, New York

The speaker will review briefly some of the cutaneous diagnostic signs and symptoms associated with systemic disease. These will include such conditions as systemic carcinoma, lymphoblastoma, the prophyria, diffuse mastocytosis, and some of the genetically oriented conditions. Illustrated material will be shown, including kodachrome transparencies of various diseases cited and microphotographs as well.

2:30 INTERMISSION—EXHIBITS

3:00 THE PROS AND CONS OF HOSPITAL ROUTINES—MODERATOR—Ernest C. Shortliffe, M.D., Administrative Vice-President, Wilmington Medical Center, Wilmington, Delaware

Thomas W. Clark, M.D., Director, Diagnostic Clinic, University of Pennsylvania; Assistant Professor, School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania

The value of routine tests and procedures lies in the information afforded to the examining physician which otherwise may be overlooked or missed. Examples are chest x-rays for carcinoma of the lungs, sigmoidoscopic examinations for carcinoma of the rectum, blood sugar determinations for diabetes mellitus, electrocardiograms for diseases of the heart. Factors that influence the selection of these procedures and how effectively these and other procedures help the physician in his evaluation of a patient will be discussed.

Leroy W. Krumperman, M.D., Professor and Chairman, Department of Anesthesiology, Temple University School of Medicine, Philadelphia, Pennsylvania

What has happened to the art and science in the practice of medicine? Years ago and even today with some clinicians, no laboratory studies were ordered until a thorough history and physical examination had been performed and recorded. The clinician would then order only such laboratory work necessary to confirm his clinical impressions. Let us remember as physicians, that we are working with human beings who deserve compassion and understanding if we expect to cure them.

4:00 Adjournment

Note: The Delaware Diabetes Association will meet immediately following the adjournment.

The Medical Society of Delaware gratefully acknowledges the assistance of the Eli Lilly Company in the presentation of the scientific session.

Wilcastle Center, 2800 Pennsylvania Avenue, Wilmington, Delaware

6:30 Reception and cocktails

7:30 Dinner

SPEAKER: Joseph Garland, M.D., Editor, The New England Journal of Medicine, Boston, Massachusetts—"The Doctor's Saddlebag"

PROGRAM OF THE THIRTY-SEVENTH ANNUAL MEETING

THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF DELAWARE

SATURDAY, OCTOBER 1, 1966

Tally-Ho, Concord Pike and Naamans Road

10:00 A.M. Registration and Coffee Hour

11:00 A.M. General Session

Call to Order—Mrs. John W. Barnhart

Pledge of Loyalty

Address of Welcome—Mrs. Christos S. Papastavros

Introduction of Guests

Memorial Service

Roll Call of Delegates—Mrs. Haynes B. Cates

Treasurer's Report—Mrs. Emerson Y. Gledhill

Reports of County Auxiliaries

Kent—Mrs. Edward Dennis

New Castle—Mrs. Leslie W. Whitney

Sussex Convention—1965

National Convention—1965

Delegate's Report—Mrs. John W. Howard

Report of Priority Committees

Report of the President—Mrs. John W. Barnhart

Report of the Nominating Committee—Mrs. Laurence L. Fitchett

Election of Officers

Address—Mrs. Lawrence Rapee—National Representative,
Woman's Auxiliary to the American Medical Association

1:00 P.M. Luncheon

Invocation

Introduction of the Advisory Committee

Greetings from the Medical Society of Delaware

Andrew M. Gehret, M.D., President

Presentation of Past President's Pin

Presentation of Gavel and President's Pin

Inaugural Address—Mrs. John W. Howard

Adjournment

PLEDGE OF LOYALTY:

"I pledge my loyalty and devotion to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation, and ever sustain its high ideals."

EXHIBITORS

BOOTH

No. 1—Brandywine Springs Nursing and Convalescent Home

As part of our display booth, we will have a continual showing of color slides of the Brandywine Springs Nursing and Convalescent Center showing the warmly decorated bedrooms, the bright and cheerful dining room, the various well lighted lounges and library. Also, available will be copies of our informative monthly newsletter, and applications for your free subscription.

No. 2—Ciba Pharmaceutical Company

Ciba professional representatives will be pleased to discuss Ser-Ap-Es and the new product Dialog.

No. 3—Delaware State Board of Health

"Two Decades of Partnership for Better Patient Care" is the theme of the exhibit commemorating the 20th Anniversary of the Hill-Burton Program to be presented by the Delaware Department of Health Pictures showing hospital progress are presented in one panel features health facility construction in Delaware which was aided by Hill-Burton funds.

No. 4—Upjohn

Upjohn will be prepared to discuss their antibiotic Lincocin and introduce Tolinase a new drug for the treatment of diabetes.

No. 5—Mutual Benefit Life Insurance Co.

Walter B. Suskind, C.L.U. Agency of the Mutual Benefit Life presents "Financial Planning for the Physician". Check with our representative for matters on tax savings, money management, insurance, estate planning. Mutual Benefit Life has been appointed by the AMA as one of four administrators for their retirement plan for physicians.

No. 6—G. D. Searle & Co.

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research. Featured will be Enovid for ovulation control and pregnancy and menstrual disturbances and Flagyl, a potent, new trichomonocidal agent for trichomonal vaginitis, cervicitis, urethritis and prostatitis.

No. 7—William P. Poythress & Co.

The Poythress exhibit will feature Trocinat, a unique, direct-acting (musculotropic) antispasmodic drug, and the Mudrane combinations, established Poythress products for relief of bronchial asthma. Solfoton, Solfo-Serpine, Panalgesic and Synirin will also be featured. Your requests for literature and professional trial quantities are cordially invited.

No. 8—Bertholon-Rowland Agencies

Bertholon-Rowland Agencies have been the administrators of the Medical Society of Delaware Income Protection coverages since 1953. Over the years many improvements have been added to this plan as well

as making new coverage available. The latest additional coverage is an improved disability income protection plan that offers substantial benefits at a modest cost by including a 30 day waiting period. Personal counselling is part of the Bertholon-Rowland Agencies' service upon request.

No. 9—Wyeth Laboratories

Wyeth Laboratories will feature Serax, an anti-anxiety agent, and Omnipen, a product of their outstanding line of penicillins. Mr. Robert Dulick and Mr. David Swingle, sales representatives, will be at your service at the Wyeth booth and looking forward to seeing you. Ice cold Coca-Cola served through the courtesy and cooperation of the Delaware Coca-Cola Bottling Company, and The Coca-Cola Company.

No. 10—Coca-Cola Company

Ice cold Coca-Cola served through the courtesy and cooperation of the Delaware Coca-Cola Bottling Company, and The Coca-Cola Company.

No. 11—John G. Merkel & Sons, Inc.

See the latest and finest in Medical and Laboratory equipment for hospital or office and the latest equipment for the home care of your patient. This equipment available upon your request.

No. 12—Lewis E. Neubauer, Nicholas Reilly

Scientific Publications

No. 13—Encyclopaedia Britannica

Encyclopaedia Britannica welcomes delegates to the Medical Society of Delaware and invites them to examine the great new editions of Britannica. Official delegates may now purchase this magnificent set at an offer only available at our convention exhibits. Visit Britannica's Booth No. 13 for free descriptive literature.

No. 14—Parke, Davis & Company

Medical service members of our staff will be in attendance at our booth to discuss important Parke-Davis specialties which will be on display.

No. 15—Merck Sharp & Dohme

The Merck Sharp & Dohme exhibit has been designed to supplement the physicians therapeutic armamentarium. Technically trained personnel are present to discuss the scope and variety of services offered.

No. 16—The Diamond State Telephone Company

From the days of Alexander Graham Bell, it has traditionally been our belief that everyone, no matter what his physical handicap, should have the advantages of telephone service. Featured on our current display will be: The Electronic Larynx; Lamp and Bell Signals; Volume Control Handsets; Switchboards for the Blind; School-to-Home Service and Special Assemblies to Meet a Particular Need.

MODIFICATION OF SYMPATHETIC TRANSMISSION BY ANTIHYPERTENSIVE AGENTS

- The introduction of compounds that affect the storage and release of norepinephrine from the adrenergic nerve terminal has furthered our ability to manage hypertension and has also aided greatly in our understanding of the mechanisms involved in sympathetic transmission.

A. DOUGLAS BENDER, Ph.D.

Once we know what causes hypertension, we will probably learn to produce drugs that will treat it more effectively. In the meantime, however, we are left with agents that, with the exception of the thiazide diuretics and hydralazine, are those capable of interrupting or modifying sympathetic blood pressure regulatory mechanisms — this despite the fact that neurological vasoconstriction has not been consistently implicated in the pathogenesis of hypertension. The discovery of selective sympathetic neuron blocking agents of varying potency provided a needed flexibility to the therapeutic control of hypertension previously unavailable with ganglionic blocking agents. Moreover, an additional benefit resulting from the introduction of these agents has been that pharmacologic studies with these compounds are providing us with important clues to the puzzling mechanisms of sympathetic transmission. Recent developments in our understanding of the mechanisms by which these com-

pounds modify this process have prompted this review.

SYNTHESIS, STORAGE AND RELEASE OF NOREPINEPHRINE AT THE NERVE ENDING

Before attempting to describe the actions of various anti-hypertensive agents, it is necessary to review the mechanisms of norepinephrine storage and release as they are now thought to occur and pertain to transmission. Norepinephrine is synthesized in brain, adrenal medulla, and sympathetic nerve endings, from the amino acid precursor tyrosine by the series of enzymatic reactions outlined in Figure 1. Normally present in the circulation, tyrosine is concentrated in sympathetic tissue, where it undergoes a series of cellular migrations and structural modifications.¹ The rate limiting step in norepinephrine synthesis is the conversion of tyrosine to DOPA.² Under certain conditions, the final step, the hydroxylation of dopamine to norepinephrine, can be made the rate limiting step.³ Because norepinephrine in adrenergic tissues fails

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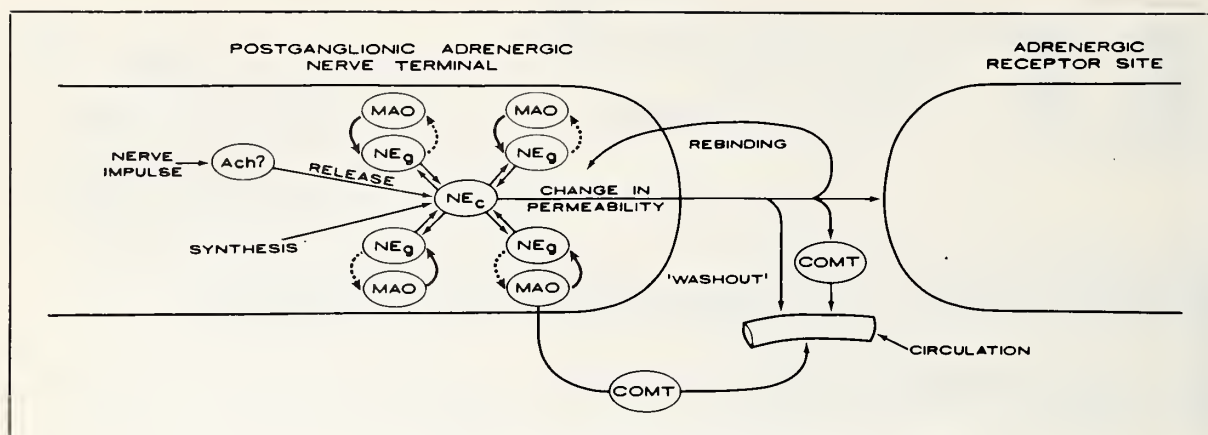


Figure 1. Biosynthesis of norepinephrine

to behave metabolically in a homogenous manner, a two compartment system has been proposed.⁴ For the purpose of this discussion, the two pools, schematically represented in Figure 2, will be referred to as the cytoplasmic pool (NEc) and the bound granular storage or reserve pool (NEg). The mobile pool (NEc) is the smaller of the two and represents norepinephrine which is in close proximity to the receptor site.

Norepinephrine from the mobile pool is released by nerve stimulation onto receptor sites.^{1, 4} Activity is terminated by the action of the enzyme catecholamine-O-methyl transferase (COMT), rebinding by the nerve ending,⁴ or by "washout" into the general circulation, where it is acted upon by COMT and is ultimately excreted in the urine.

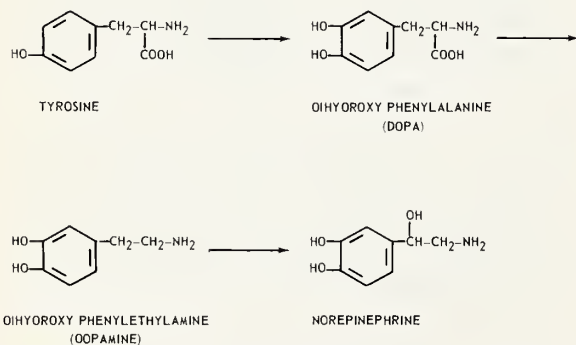


Figure 2. Schematic representation of norepinephrine storage at the sympathetic nerve ending.

Sympathetic transmission is the result of release of norepinephrine from the mobile pool onto receptor sites. It has been postulated that this release results from an action of acetylcholine at the nerve, ending.⁵ Indirectly acting sympathomimetic amines also exert their effect through the depletion of the mobile pool.⁶ Reserpine, on the other hand, causes depletion of the storage pool of norepinephrine resulting in its destruction by monoamine oxidase (MAO).⁴ MAO normally serves to limit the size of NEg by destroying norepinephrine which diffuses outward from the storage pool (dotted arrow, Figure 2).

It has recently been shown that various compounds serve as substrates for the enzymes involved in the synthesis, the result being the synthesis of "false neurotransmitters" which enter the storage compartments normally occupied by norepinephrine. These "false transmitters" are capable of modifying sympathetic transmission. The production of "false transmitters" is perhaps responsible, in part, for the antihypertensive properties of alpha-methyl-dopa and pargyline, two of the agents to be discussed in this review.

PHARMACOLOGY OF BLOCKING AGENTS

Guanethidine

Guanethidine is a potent antihypertensive and sympathetic blocking agent reserved primarily for the treatment of the patient with severe or sustained blood pressure elevation.

In addition to its blocking properties, guanethidine has been shown to deplete sympathetic tissues of catecholamines. It initially produces a pressor effect as a result of release of NEc onto the adrenergic receptor. This effect is perhaps due to replacement in view of the observation that guanethidine and the catecholamines share a common storage process.⁷ Recently, it has been shown that guanethidine is released on nerve stimulation and may thus play a role as a "false transmitter".⁸

Because of its ability to deplete tissues of the adrenergic transmitter and to exhibit selective adrenergic blockade, it was first postulated that sympathetic blockade was achieved as a result of a deficiency of norepinephrine.⁹ While its long term effect may indeed be the result of such an action, the initial sympathetic blocking effect achieved with guanethidine occurs prior to depletion of norepinephrine stores.¹⁰⁻¹² Also, replenishing the transmitter by the infusion of norepinephrine does not result in reversal of adrenergic blockade,¹² suggesting that blockade and depletion are independent of one another. The blocking action of guanethidine may be the result of prevention of the release of norepinephrine from the nerve terminal. Bretylium, a selective adrenergic blocking agent which has been clinically discarded because of the tolerance which develops to its antihypertensive effect, also prevents release of norepinephrine resulting from nerve stimulation, but has no effect on norepinephrine levels of sympathetic tissue. Bretylium may exert its effect by interfering with the release of acetylcholine in the nerve terminal.⁵ Thus while their deposition and basic actions at the nerve terminal are different,⁸ there are similarities in the actions of bretylium and guanethidine resulting from inhibition of catecholamine release.

α -Methyldopa

The initial use of α -methyldopa in man was prompted by the observation that this compound was a competitive inhibitor of the enzyme DOPA decarboxylase. Though this activity has been confirmed in man,¹⁴⁻¹⁵ its antihypertensive property does not appear to be a reflection of this effect. Inhibition of

decarboxylase *per se* does not result in a decrease in blood.^{16, 17} The observation that a potent decarboxylase inhibitor prevents the hypotensive effect of α -methyldopa in the rat¹⁷ suggests that the hypotensive action is mediated through its metabolites, α -methyldopamine and α -methylnorepinephrine (Figure 3). The presence of these metabolites has been demonstrated in the brain and heart of various animal species. Day and Rand¹⁸ were the first to suggest that the hypotensive effect is the result of the replacement of norepinephrine by the metabolite α -methylnorepinephrine. With the report that this "false transmitter" was approximately $\frac{1}{2}$ to $\frac{1}{9}$ as active as norepinephrine,¹⁹ this theory became an attractive one in explaining the anti-hypertensive effect of α -methyldopa and was in agreement with the observation that complete sympathetic blockade is not achieved with this agent.²⁰ Subsequent studies, however, found that norepinephrine was replaced by equipressor amounts of α -methylnorepinephrine,¹² and demonstrated that norepinephrine and α -methylnorepinephrine were equally effective in their chronotropic, inotropic, and pressor actions.^{22, 23} α -Methyldopa may be less readily utilized as a transmitter substrate than DOPA, and thus less transmitter may be made available in the animal treated with α -methyldopa than would be provided with the endogenous stores of DOPA.²²

Pargyline

Because of the frequent orthostatic hypotension observed clinically in association with the use of the early hydrazine compounds, there were attempts to develop monoamine oxidase inhibitors for use in the treatment of hypertension, one of which is pargyline, a potent monoamine oxidase inhibitor. It shares the ability of the hydrazine and non-hydrazine monoamine oxidase inhibitors to increase tissue levels of various catecholamines and indolamines.²⁴ There is evidence to suggest, however, that its antihypertensive effectiveness is unrelated to its ability to inhibit monoamine oxidase.²⁵ In this connection, it has been shown that the demethylated analog of pargyline is a potent MAO inhibitor in its own right but has no significant effect on blood pres-

TABLE I
COMPARISON OF CLINICAL PROFILES

	GUANETHIDINE	α -METHYLDOPA	PARGYLINE	RESERPINE
USE	Severe or Sustained Hypertension	Moderate to Severe Hypertension	Moderate to Severe Hypertension	Mild to Moderate Hypertension
DOSE	25 to 50 mg/day	0.5 to 2 gm/day	25 to 75 mg/day	0.25 mg/day
orthostatic hypotension	++++	+	++	0
cardiac output	decreased	unchanged	unchanged	unchanged
renal blood flow	decreased	unchanged	decreased	unchanged
exertional hypotension	yes	no	no	no
depression/sedation	no	yes	no	yes
dizziness, fatigue, lassitude	yes	yes	yes	yes
nasal stuffiness	yes	yes	no	yes
bardycardia	yes	slight	no	yes
diarrhea	yes	yes	no	yes
tendency to increase blood urea nitrogen	+++	+	++	0
tendency to worsen or precipitate heart failure	yes	no	no	no
increase in body temperature	no	yes	no	no
risk of hypertensive crisis following ingestion of aged cheese	no	no	yes	no

sure.²⁶ Recent studies indicate that pargyline and other MAO inhibitors block the release of the adrenergic transmitter at the sympathetic nerve terminal,^{27, 28} an action proposed for guanethidine and bretylim.^{27,28} Pargyline antagonizes guanethidine-induced catecholamine depletion and blocks the response to low-level nerve stimulation.

It has again been implied that MAO inhibition in itself may modify sympathetic transmission. Kopin et al²⁹ have shown that monoamine oxidase inhibition results in an elevation in tissue levels of octopamine a potential "false neurotransmitter". The series of steps involved in the conversion of tyrosine to octopamine are illustrated in Figure 4. Tyrosine is decarboxylated in liver, kidney, and gastrointestinal tract to form tyramine. Because tyramine is readily destroyed by monoamine oxidase, significant plasma concentrations of this amine

would be expected only following inhibition of MAO. Hydroxylation of tyramine in sympathetic tissue yields octopamine, which appears to occupy the same sites as endogenously synthesized norepinephrine.²⁹

Reserpine and Other Rauwolfia Alkaloids

Reserpine and other rauwolfia alkaloids have been extensively employed in the management of hypertension. The autonomic effects of reserpine include the decrease in sympathetic activity and a concomitant increase in parasympathetic activity. Its central effects of reserpine include the decrease in sympathetic activity and a concomitant increase in parasympathetic activity. Its central effects are manifested by tranquilization and sedation and indeed the antihypertensive effect of reserpine may be partially brought about centrally through its action upon the hypothalamus to diminish sympathetic tone.

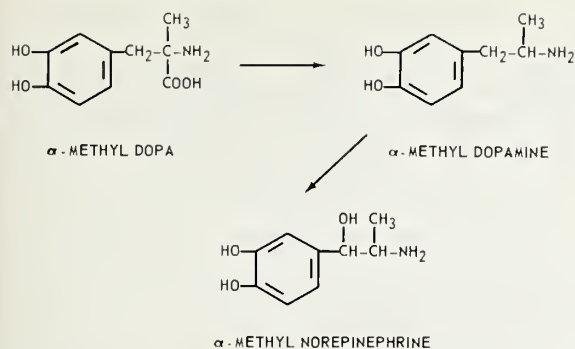
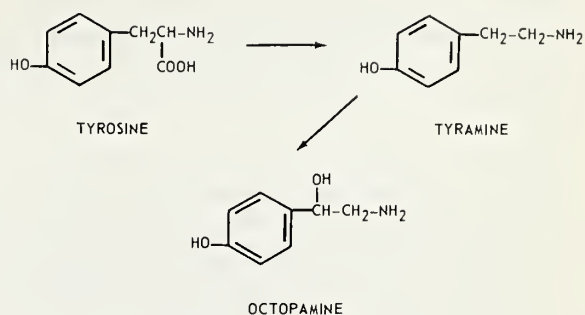
Figure 3. Metabolism of α -methyldopa

Figure 4. Metabolism of tyrosine

Reserpine significantly lowers tissue levels of norepinephrine^{12, 30} as a result of inhibition of transport systems normally responsible for returning amines to the storage pool which are spontaneously released into the cytoplasm, as well as prevention of further storage of newly synthesized catecholamines by the granules. The decrease in norepinephrine levels is thought to be responsible for sympathetic blockade. In a recent study in the rat, however, it has been found that an analog of reserpine, syrosingopine, causes significant depletion of norepinephrine from heart and spleen, but this deficiency does not correlate with the production of adrenergic blockade. Perhaps in the rat the loss of norepinephrine from tissue stores *per se* does not induce adrenergic blockade and the action of this reserpine derivative is similar to that of guanethidine and bretylium. Further work is necessary, however, before one can discard the hypothesis that reserpine impairs adrenergic function by its ability to deplete stores of the transmitter norepinephrine.

COMPARISON OF THE HEMODYNAMIC PROPERTIES AND CLINICAL PROFILES

A comparison of the clinical pharmacology of the agents acting at the adrenergic nerve terminal is presented in Table I. It is obvious that although all these agents are capable of modifying sympathetic transmission they exhibit different clinical profiles.

For example, guanethidine is the most potent compound in this group and is thus more likely to produce the overt symptoms of

adrenergic blockade, such as bradycardia, nasal stuffiness, diarrhea and orthostatic hypotension. Guanethidine also decreases cardiac output and renal blood flow resulting in blood urea nitrogen elevations, effects which are less marked following administration of α -methyldopa and pargyline and just about non-existent with reserpine. There is also a correlation between the potency of these compounds and their clinical use: reserpine, being the least potent of the series, is used primarily in the patient with mild to moderate hypertension, whereas guanethidine is reserved for the patient with severe hypertension, and α -methyldopa and pargyline are used in the patient with moderate to severe hypertension.

Guanethidine does not pass the blood brain barrier so its action has no central component. Both α -methyldopa and reserpine deplete central adrenergic stores of norepinephrine and thus have in common their ability to produce central sedation. On the other hand, pargyline by its ability to inhibit monoamine oxidase causes an increase in brain levels of serotonin and norepinephrine and has a tendency to cause slight stimulation. The ability of pargyline to inhibit monoamine oxidase is responsible not only for this effect, but also for the occasional hypertensive crisis which is seen in patients following the ingestion of aged cheese.

Moreover, these drugs produce several rare side effects that would not be predicted on the basis of their pharmacologic action and yet are peculiar to the drug. Examples are the

tendency of guanethidine to worsen or precipitate congestive heart failure and α -methyldopa to increase body temperature in some patients.

Summary

The introduction of compounds that affect the storage and release of norepinephrine from the adrenergic nerve terminal has furthered our ability to manage hypertension and has also aided greatly in our understanding of the mechanisms involved in sympathetic transmission. Guanethidine is the most potent sympathetic blocking agent available. It is used primarily in those patients with severe hypertension and as a result of its potency is most likely to produce symptoms of sympathetic blockade, including orthostatic hypotension. α -methyldopa and pargyline are used primarily in those patients with moderate to severe hypertension, while reserpine is reserved for the patient with mild to moderate hypertension.

Guanethidine appears to achieve adrenergic blockade as a result of its ability to block the release of norepinephrine from the nerve ending. α -methyldopa serves as a substrate for the synthesis of a "false transmitter", α -methylnorepinephrine which serves to modify sympathetic transmission. The action of pargyline remains unclear. Pargyline and other MAO inhibitors have been found to prevent the

release of norepinephrine from the nerve terminal, an action which is consistent with the effect of guanethidine. While there is some evidence to the contrary, reserpine appears to be effective because of its ability to deplete norepinephrine stores of the adrenergic nerves.

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PHYSIOLOGY, TREATMENT AND PREVENTION OF HEAT ILLNESS

• This article on heat illness in athletes by two experts from the University of Delaware presents the most important aspect of this condition—its prevention.

C. ROYER DONOHO, M.D.
C. ROY RYLANDER, Ph.D.

In recent years heat prostration has become of major importance as one of the leading causes of death among athletes, particularly in the sport of football. It is important not only as a cause of death, but also as a cause of disability and impaired performance.

The beginning of another school year and the 1966 football season is rapidly drawing near, and those responsible for the safety of our athletes—the administrators, coaches, trainers and physicians—need to be reminded of fundamental principles relating to the physiology, treatment, and particularly the *prevention* of heat illness.

Physiology

There are three types of heat illness—Heat Cramps, Heat Exhaustion and Heat Stroke. In order to understand the treatment and prevention of these effects of heat, it is necessary to consider the basic mechanism of heat regulation.

The body loses heat by conduction, convection, radiation, and vaporization. Conduc-

tion, convection, and radiation heat loss depends upon the movement of air and the fact that the environmental air temperature must be lower than skin temperature. When the air temperature is greater than skin temperature, heat can only be lost by evaporation. Another important factor is the amount of moisture in the air; humidity affects evaporation, and if it is high enough, can prevent evaporation.

When exposed to high temperature, receptors in the skin relay stimuli to the heat regulating center in the hypothalamus. This motivates vasodilation of the peripheral blood vessels causing an increase in sweating. With this widespread dilation, the blood volume drops and there is a fall in blood pressure. In turn the cardiac rate increases to help compensate for this loss of effective blood volume. The increased cardiac rate also helps by keeping the peripheral circulation moving rapidly so more heat can be lost by convection and radiation. The respiratory rate also increases and more heat is lost by vaporization from the lungs. In addition, a hormonal mechanism is started through the hypothalamic, pituitary, adrenal axis which regulates salt and water loss in the kidneys.

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Sweating entails loss of both water and salt. By simply replacing the water alone, we further decrease the concentration of salt. Muscle cramps or *heat cramps* result from excessive salt depletion.

The state of heat exhaustion may be mild or severe, depending upon the efficiency of the heat regulatory mechanism. Symptoms of headache, muscle cramps, excessive perspiration and a cool skin are present in mild forms (heat cramps, heat exhaustion).

The most striking reaction in men suddenly exposed to an extremely hot environment is syncope. This is heralded by yawning, sighing, blurred vision and confusion. It is due to the sudden drop in blood pressure. The symptoms disappear when either voluntary or assisted movement effects recumbency.

The most serious complication is *heat stroke*. In this there is a complete breakdown in the control center; there is a complete absence of sweating and the skin is hot and dry. The body temperature rises rapidly and quickly gets to levels above 105 degrees Fahrenheit. Collapse, mental confusion, and coma follow. The respiratory center is affected and death can occur. Temperature levels of 110 degrees F. have been recorded in heat stroke cases.

Treatment

Mild forms of heat illness, such as heat cramps and heat exhaustion may be treated on the field by allowing a player to rest in the shade and by providing water and salt.

Heat stroke is a medical emergency. In the treatment of the heat stroke victim, first aid is directed toward cooling the patient as rapidly as possible and supplying him with salt and water if conscious. Until more complete medical care can be obtained, the patient should immediately be moved into shade, heavy clothing or equipment removed and the individual cooled with quantities of water.

Since only the mild forms of heat illness may be effectively handled on the field through standard first aid measures, prevention is of utmost importance.

Prevention

Preventive factors to be considered are (1) acclimatization, (2) physical fitness, (3) water and salt, (4) clothing, (5) general health, (6) practice schedules, (7) meals, (8) sleep, and (9) climatic factors.

Padded areas of a uniform have been identified as a major factor in heatstroke and heat exhaustion because these areas do not allow heat to dissipate. Players in contact drills and play of course must wear protective pads so it becomes necessary for them to become acclimatized so that they can develop resistance to great heat loads. Players, therefore, should have at least 3 weeks of conditioning in a warm environment before being allowed to compete in the technical skills of his own sport. During this period the body will adjust to heat by increasing the blood volume, and decrease the concentration of salt lost by sweating. At the same time physical fitness will be improved; players inclined to be obese and/or who have poor physical fitness are less able to withstand heat.

The workout should be either early or late in the day to take advantage of temperature conditions. If it is either hot or humid, there should be 15 minutes of doing nothing for every 30 minutes of exercise.

The athlete should be given salt and water or a saline solution (about one tablespoon of salt to a gallon of water) at frequent intervals. Large amounts of salt and water should be avoided as the body cannot absorb this. Rather, give 2-6 ounces of water with salt during the frequent rest periods. Water restriction has long since been discredited. Liberal use of salt on food and two salt tablets before and after each practice or game and after each meal is also recommended. Some salt tablets have ascorbic acid in them, if not, ascorbic acid tablets may also be given with the salt tablets.

Fever producing infections, general ill health, or immunization injections are considered reasons for light duty.

The uniform, regardless of school colors, should be very light to reflect as much heat as

possible. Clothing should be loose where possible. Allowing the shirt to hang out or loose enables it to act as a bellows thereby helping to get rid of heat.

Meals should be followed by a one hour rest or class type instruction. If a player is unable to eat properly, available commercial liquid training meals should be provided.

At least seven hours of sleep are necessary to prevent cumulative effects of fatigue.

Climatic factors important in heat loss determine the degree of active training and practice for day. These factors of temperature, humidity, thermal radiation and air movement should be determined on the fields used for practice or play.

A wet bulb-globe temperature index developed by the United States Marine Corps (WBGT Index) has been in use at the University of Delaware for the past several years. This index combines shade air temperature, radiation, humidity and wind into a single value to be used as a guide for controlling training. It is obtained by reading three instruments—the shade dry bulb thermometer, the wet bulb thermometer, and the globe thermometer—and multiplying each reading by a known factor. The results are then totaled to obtain the index. Practice sessions in warm weather should be planned provisionally on the basis of the WBGT Index.

Instruments needed are a dry bulb thermometer, a wet bulb thermometer which consists of an ordinary thermometer with a moist wick surrounding the bulb, and a globe thermometer. The wet bulb reading will be the same as the dry bulb reading only when the relative humidity is 100 per cent.

The globe thermometer consists of an ordinary thermometer inserted through an air tight stopper into a hollow copper ball* six inches in diameter. The ball is painted flat black. The stem of the thermometer is exposed for reading. The globe thermometer reading is a balance between heat gained by radiation and heat lost by convection. It in-

cludes air temperature, air movement, and radiation.

The index is calculated as follows:

Dry Bulb Temperature	x	0.1
Wet Bulb Temperature	x	0.7
Black Globe Temperature	x	0.2
TOTAL - WBGT Index		

The factors in the formula should be measured at the actual site of practice or play.

The index may be used as follows:

- (1) When the WBGT Index exceeds 80 degrees Fahrenheit, heavy exercise for unacclimatized players should be conducted with caution and under constant supervision.
- (2) When the WBGT Index reaches 85 to 88 degrees Fahrenheit heavy exercise for unacclimatized players should be suspended. Acclimatized players may carry on limited activity, *e.g.*, 15 minutes of rest for every 30 minutes of exercise providing 2-6 ounces of water with salt during each rest period.
- (3) When the WBGT Index exceeds 90 degrees Fahrenheit all practice is halted.

Summary

The physiology, treatment and prevention of heat illness in athletes have been discussed. A logical and sensible approach to practicing in a hot environment demands consideration of the preventive factors of acclimatization, physical fitness, meal, sleep and climatic factors. A plan for the use and determination of a wet bulb-globe temperature index, the WBGT Index, on the actual playing field is presented for control of physical activity in a hot environment.

Consideration of these preventive factors coupled with a common sense attitude toward exercise in excessive heat can prevent even the mild forms of heat illness. Prevention is of paramount importance.

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*The Copper ball may be procured through Arthur Harris & Co., 210-218 N. Aberdeen St., Chicago, Illinois.

INDEPENDENCE THROUGH ACTIVITIES OF DAILY LIVING

• The use of adaptive equipment will sometimes give your patient added independence, a feeling of fulfillment through achievement and free the family members of some responsibility. The information and patterns given here are intended to be shared with your patients and their families.

MAE D. HIGHTOWER, O.T.R.

Activities of daily living or A.D.L. was first recognized as a distinct treatment with patients who had cerebral palsy and with those patients who were severely disabled with poliomyelitis. A medical "cure" was not possible and the limited goals for these patients were self-care. With an increasing number of physically limited patients exhibiting a variety of disabilities, this need has become more evident as an integral part of the treatment program. In a comprehensive rehabilitation or treatment center, it is the occupational therapist, trained in these skills, who evaluates the patient and provides him with the adaptive equipment needed to make him as independent as possible.

Activities of daily living or aides to daily living, as A.D.L. is sometimes called, may be broken down into three basic categories:

1. Self-care
2. Home making
3. Travel and hand activities relating to vocations

In achieving independence, training in the use of the residual ability is always necessary and training in the use of self-help devices or specialized equipment is often indicated. The

patient may need only one single session in therapy for training with or without special adapted equipment or he may need many sessions and many different pieces of adaptive equipment. Before the patient begins training, he is given an A.D.L. evaluation which covers some 96 different activities. The patient is then scheduled for training in the area or areas where he needs help.

Training in A.D.L. should begin very early in the course of disability and as soon as the patient can tolerate any activity. There is a strong correlation between the physical condition of the patient and the order in which activities are taught; but, generally, the activities are introduced in the following sequence: eating, dressing, toilet activities, transfer and travel and ambulation in a wheel chair.

Assistive or orthotic devices are not adopted on the basis of the physical disability per se but on the basis of the patient's functional need from a physical, social, psychological, and vocational standpoint.

Orthotic devices are indicated if there is:

1. Muscle weakness, partial or complete, temporary or permanent
2. Loss of range of motion, partial or complete, temporary or permanent

Miss Hightower is Executive Director, Delaware Curative Workshop.

3. Loss of coordination
4. Spasticity or muscle spasm
5. Sensory deficiencies, especially relative to touch, temperature, and pain

In addition to the physical disability affecting his ability, the patient may lack motivation, have speech, sight, and hearing problems and may fatigue rapidly. Not to be overlooked are the psychological factors involved in the acceptance of such devices by the patient, and the following must be considered:

1. The patient's interest in overcoming his disability
2. The duration and the extent of his disability
3. The patient's age
4. The patient's reaction to something new or different
5. The cosmetic factor
6. Social and cultural factors affecting the patient

When adaptive devices are indicated and when it is recognized that the patient cannot be independent (either temporarily or permanently) without such devices, success is more readily achieved when the devices are introduced early in the treatment program; the patient is provided with the best device possible and it is kept simple; the patient is allowed to participate in the selection of his own devices and he approves these devices; the patient is carefully instructed and trained in the use of the activity; and the patient realizes that he cannot accomplish his goal of independence without the device.

Obvious areas to be considered when analyzing the need for and advantage of orthotic devices are:

- A. Self care
 1. Dressing
 2. Toilet activities
 3. Eating
 4. Bed
- B. Communications
- C. Travel and transfer
- D. Household equipment
- E. House adjustments
- F. Miscellaneous (sewing, smoking)
- G. Recreation
- H. Prevocational and vocational

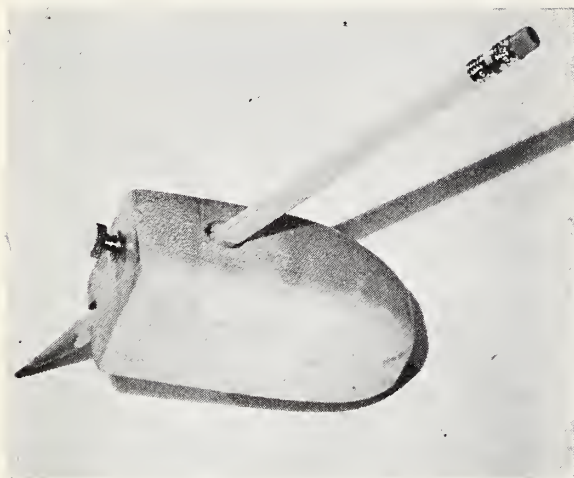
We cannot say that all patients who have rheumatoid arthritis will need a specific type of eating aide, i.e. if the patient has the ability to grasp, but cannot completely flex his elbow and/or shoulder, he would need an implement with an extended handle. If he could partially close his hand, though not completely, and he still had good motion in the elbow and shoulder, he would need only an implement with a built-up handle. If he could not move his fingers at all and lacked wrist motion and forearm motion, though he still had elbow and shoulder motion, he would require an implement with rings or cuff to fit over his fingers, so that he could hold the device and the spoon or fork would have to be angled and swiveled to compensate for the lack of wrist and forearm motion. So it is with each disability and so must the device be fitted to the patient's needs.

While some patients will readily accept any device which will lead to independence, others will not and can not. It is recommended that a few samples be made available for trial with patients so that success may be calculated and the patient may be made completely aware of what the use of an A.D.L. device entails. A check list which could be completed by the patient's family or the patient himself is helpful in determining the areas of A.D.L. most necessary. The occupational therapist, practiced in their field, begins with such an evaluation. This need not be a long comprehensive form as is used in a rehabilitation-treatment center, but may include only those basic items which are listed above.

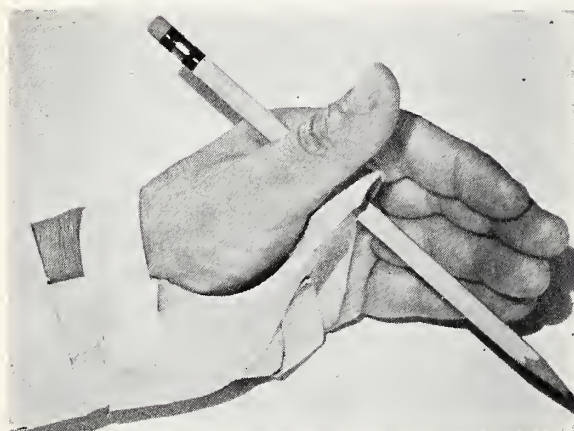
There are several good books available listing orthotic devices of almost every variety.* Some of the adaptive equipment is available commercially, some may be easily constructed by an occupational therapist or a member of the patient's family. Still others may be purchased at the local department store or novelty shop. While manufactured for gift or work simplification, some items are suitable for use as adaptive devices.

We have chosen to show a few orthotic devices which may be used with many types of disabilities and which are simple and cheap to construct. * See page 242

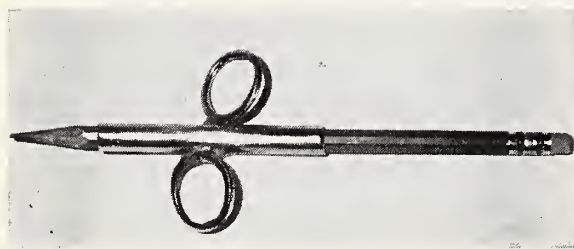
WRITING AIDES



A



B

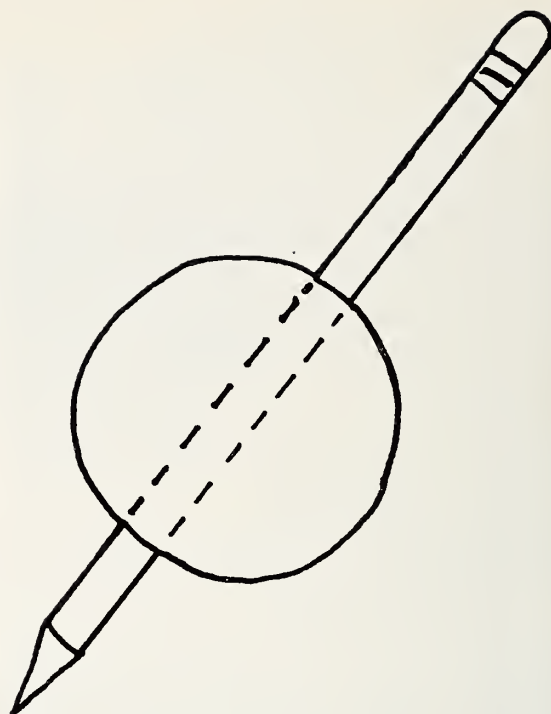


C

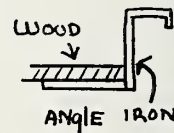
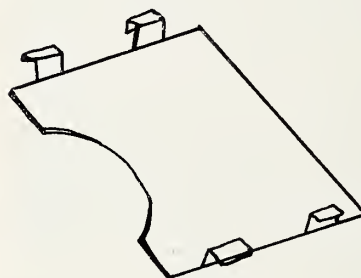
A. Wood-gliding pencil holder

B. Cock-up splint with built-in pencil holder

C. Metal tubular pencil holder with finger rings



Solid sponge rubber ball with a hole drilled through the center and a pen or pencil inserted through it.



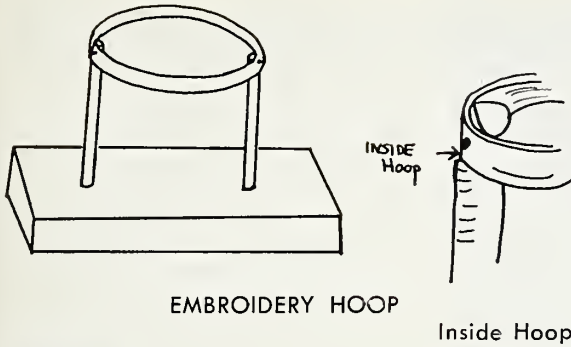
LAPBOARD, RECESSED

Materials:

$\frac{3}{8}$ " plywood
 $1\frac{1}{2}$ " strap iron
 $\frac{1}{2}$ " wood screws, flathead
 Rubber treading

Procedure:

Dimensions depend on width of wheelchair arms, depth of wheelchair seat and thickness of patient's body. Strap iron is bent as illustrated. Protruding ends of screws are filed off. Depth of the recess should bring the lapboard to with $\frac{1}{2}$ " of patient's lap. Width and depth of the cutout depend on body build of patient. This plan may be modified by omitting the strap iron attachments and using a "C" clamp to secure lapboard to the arm of the wheelchair.



EMBROIDERY HOOP

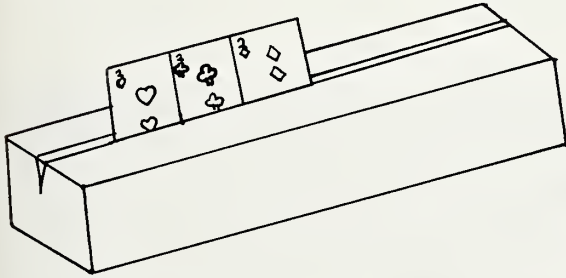
Inside Hoop

Materials:

Wooden embroidery hoop
2 ½ dowels approximately 6-8 inches in length
Block of wood
2 Rivets

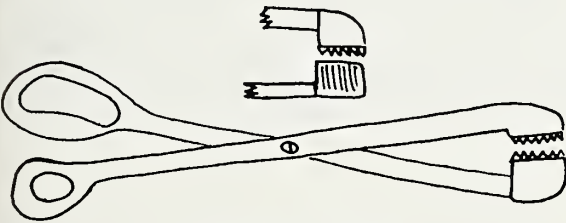
Drill and Bit

Assemble as shown. Can be attached to a table with a C-Clamp or with 2 suction cups attached to the bottom.



CARD HOLDER

Card Holder—Stick of wood with a slit sawed part way through. Can be painted and decorated as desired.



REACHING TONGS

Materials:

For long reachers, ¾" x 30" black willow wood
For short reachers, ¾" x 2" x 18" black willow wood (plywood may be used)

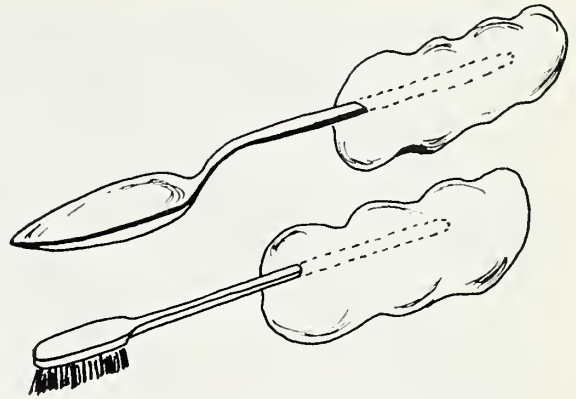
1" bolt, 2 washers, square nut

Corrugated rubbers for grips

Wood—2 pieces ¾" x ¾" x 1 ½"

Procedure:

Cut two pieces to pattern. Bolt the pieces together at the middle and clip off excess length of bolt. Glue and wire-brad the pieces of wood on end of each piece for wider grip as diagrammed. Cover these biting surfaces with rubber for better grip.



BUILT UP HANDLES

The cheapest, quickest, and easiest built up handles may be applied to toothbrushes, spoons, forks, combs, etc. by the following method:

Materials:

Two or three slices of stale bread

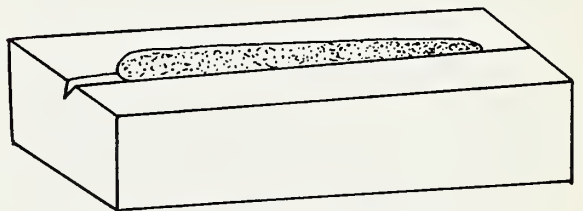
Two teaspoons of vinegar

Water

Paint or varnish if desired

Procedure:

Soak the bread in the vinegar water mixture until it is wet through and can be worked into the consistency of putty. Squeeze most of the moisture out of the mixture and mold it around the handle of the spoon, toothbrush or whatever you wish to build up. Allow to harden for at least twenty-four hours. This handle will last a long time, but will not withstand dishwashers, etc. If color is desired, the handle may be painted with an enamel paint. Varnishing will make it easily cleaned. The tool is not damaged and a hard hit will crack the bread handle and it may be removed. The vinegar is important as it prevents mold and the bread handle will not sour. For even better fit, the patient's hand may be closed around the handle while the bread is still moist and the imprint of the fingers will be left so that the handle is "custom fitted."



NAIL FILE HOLDER

Materials:

Small stick of wood about 8 inches long

Saw

2 Suction cups for bottom if desired

Procedure:

Saw slit in wood and insert nail file or emery board. Paint and decorate as desired. Add suction cups on bottom for stability if necessary.



EATING AIDES

Swivel spoon

Fork and built up handle

Spoon with extended handle and finger rings

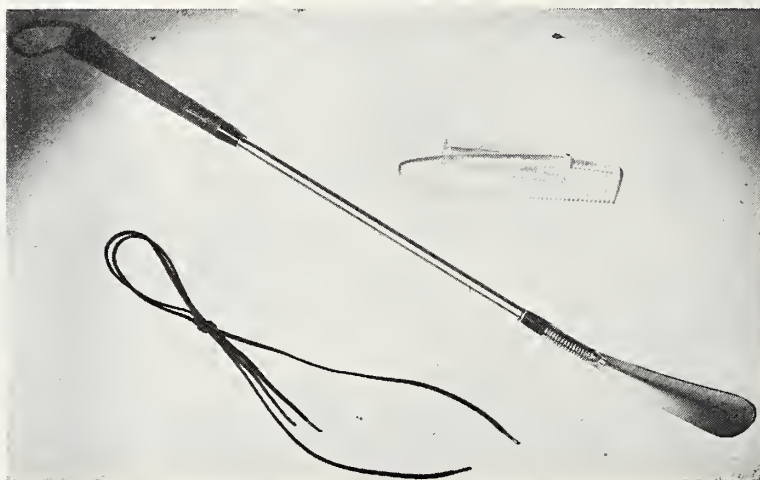
Knife-fork combination

DRESSING AIDES

Comb with built up handle

Long-handle shoe horn

Elastic shoe laces



*More detailed listings with market sources will be found in *Self-Help Devices for Rehabilitation, Part I and II* published by Wm. C. Brown Company, Publishers, 135 South Locust Street, Dubuque, Iowa 52001. These volumes were prepared as the result of a cooperative service project conducted by New York University, Bellevue Medical Center and under the direction of Muriel E. Zimmerman, O.T.R. The books are available at \$4.75 and \$4.00 a volume, respectively.

Other helpful publications are:

How About This? — A handbook of Occupational Therapy for Arthritis, available through the Kentucky Occupational Therapy Association, at fifty

cents a copy.

Homemaking Aids for the Disabled — Printed and distributed by Kenny Rehabilitation Institute, 1800 Chicago Avenue, Minneapolis, Minnesota 55404; single copies available at no cost to physicians, additional copies, twenty-five cents each.

Do It Yourself Again — American Heart Association, 44 East 23rd Street, New York, New York 10010 — free through the local chapter of the American Heart Association.

Clothes for the handicapped are available at reasonable cost (dresses from \$7.95 to \$18.95) from "Vocational Guidance and Rehabilitation Service," 2239 East 55th Street, Cleveland, Ohio 44103 — Catalogue available on request.

Reflections of a Country Doctor

PART V

ROBERT B. HOPKINS, M.D.

His Colleagues

I hear there is a new doctor in town, remarks one of your friends, as you venture out early one morning. Indeed, you inquiringly ask, who is he? Some young man from the city, and they say he is very smart, he has been through all the hospitals and of course has had some advantages. Your rival, in a few days, condescends to pay you a friendly call. You receive him kindly. He has come to make your acquaintance and hopes that both will live on friendly terms and be of mutual benefit. You hope so too. A former patient of yours, who has long since considered your services of no importance and treated your bill likewise, takes special interest in introducing your competitor to your friends. After your rival has been in the community several months his reputation spreads far and wide. You are simply not in the rate with some people. He is a source of some annoyance not from his remarkable cures but when you have a very sick patient he intimates to some of the relatives and friends that he would like to see the case, that probably he could make a speedy cure. He can relieve the most severe pain in a few minutes, and can break the fever of typhoid. He has a little instrument which he carries in his pocket and by placing this in a person's mouth can tell exactly what and

where the trouble lies — and oftentimes with this instrument alone has made remarkable cures. You have carried a thermometer all your professional life, yet had never had its praises sung by the laity and never outside of its clinical use did it fulfill any important function. You always informed your patient you wished to take the temperature and aside from this fact had never been made use of for medicinal purposes. But your medical friend has met with great success by its use. Then again he is a cheap doctor — he only charges half what the other physicians do and of course that is quite an item provided you are compelled to require his services often. In the course of a year or two, one day he calls upon you and says—"Well Doctor, I find the work so laborious my health is beginning to fail and think it best for me to remove to some locality where I can do more office practice, and would like to sell my practice to you." Nothing to my mind could be more absurd or ludicrous. The emancipation proclamation was proclaimed years ago. Our estimation of the integrity of a community would be materially lessened did we think it was under the supervision or vassalage of a country doctor. What claims further than a reciprocal feeling which naturally grows between a community and a physician as a friend to a friend or a natural consequence for faithful services rendered would a doctor seek or even wish to impose. We understand

Dr. Hopkins was President of the Medical Society of Delaware, 1901-02.

how a person might sell a business stand or a dwelling, but how can one sell what he does not possess nor cannot impart, but simply exists by his own endeavors. We once endeavored to take charge of a city doctor's practice during his absence of eight months.

That was a complete failure in-so-far as retaining his patients. When he returned we had a practice that we had earned simply by our own endeavors and we imagine when he returned he was in the same predicament (only to a less degree) he placed us.

Your rival has left and your former patients, whom he has attended, return. They expect you to attend them for the same fees your competitor instituted. This you positively decline to do, respectfully informing them if they wish your services they must expect to pay a respectful and honest fee. In the course of a year you get the business world at an equilibrium. Suddenly another young M. D. hangs out his shingle and again the equilibrium is disturbed and the financial pendulum begins to oscillate. You maintain your integrity and the estimate you place on your services. It is an easy matter to reduce your fee, but a very difficult one to raise it. The consequence is when a young M. D. settling himself in the country places his fees below the one with whom he is a competitor, he will soon find he will not be able to meet his expenses and further will lower himself as a physician in the estimation of the public. Physicians and Country Doctors in particular should be generous towards each other. They should work in hearty and willing cooperation. It is indeed unbecoming for one physician to speak slightly of another or to treat him in any but a professional way. But there are men in the medical profession, as well as in the other professions, who are unscrupulous.

He has spent several years at different Medical colleges — has studied homeopathy as well as the regular.

This conversation calls to mind an incident told of a young doctor desiring to make a good impression upon an old farmer — declared he had received a double education. He had

studied homeopathy and was also a graduate of a regular medical school. "Oh! that is nothing, said the farmer, "I had once a calf that sucked two cows and he made nothing but a common steer after all."

How beautiful the morning as the sun breaks forth from the Orient, dispelling the gloom and mists and calling a sleeping world from slumber into activity and life. The birds pour forth their sweetest carols; nature seems striving to impart her greatest blessings; there is joy and hope. What could be more beautiful for a landscape picture than the early morning scene of summer in the country.

We all have our mornings of life I muse as I ride along in the early hours. Childhood in its innocence; youth with its forays of imagination; manhood with its vigor and strength. The morning when our hearts are full of joy and thanksgiving. How anxiously the patient has looked for the hours of the morning. Possibly he has tossed himself during the long and weary hours of the night. The fever which has raged with unabated fury now begins to subside; the long watches of the night are spent and we find our patient better in the morning. How rejuvenated the doctor when his patient has passed the critical period and enters upon convalescence. He himself has passed restless nights, but how buoyant is his heart this morning as he rides along drinking in the beauties of nature. How exhilarating to his tired and troubled mind as the cool refreshing morning breeze blows against his face. He sees new beauties all around; the world is not so dark and empty as it seemed a few days ago. The clouds which have hung on the horizon, and the mists which have hovered over the meadow are being gradually dispelled. The dew still clinging to the grass and verdure sparkles in the sun's rays. The song of the black bird and lark, sweet songsters of the wood and meadow, greet you with their morning carols; the cattle go forth to pasture; the farmer to his work; the world is again busy.

But the morning all too soon passes away and it is noon. How short a time, we muse — an infinitesimal speck that soon passes away



Cool Spring Community Hall in Milton has this curtain mural for its stage painted by Dr. Hopkins.

and forms the great past. On the future we can place no reliance. Now is the time we must act and live. Happy is the man who can fill it with a motive — with a purpose. The noon of manhood — the height of our abilities, now is the time to put forth our best endeavors, quicken our perception that we may reap and gather that which will strengthen and sustain when our sun begins to sink behind the Western hills. The noon has spent its season and almost imperceptibly the shadows begin to lengthen and evening is fast approaching. The busy world worn with cares and toils of the day now seeks repose. The twitter of the birds among the trees, the pigeons as they cluster around the barn, the geese with their cackling as they wend their way in file from the meadow, the lowing of the cattle, the busy clatter of the fowl in the barnyard greedy over the evening meal — are soon hushed. The world is lulled to sleep and all is still. But not always so with the doctor.

Your patient, little Esie, the bright and cheerful daughter of a prosperous farmer, is dangerously ill. All care and affection has been

centered on this child. She is the light and joy of the home, and you have even learned to love her yourself. You have watched the case with intense anxiety and not satisfied to trust yourself have called in the aid of an older and more experienced practitioner. You together visit your little patient but his prognosis of the case is unfavorable. The anxious father and mother full of deep solicitude for their only child, worn and weary by their constant care, yet the hands are never too tired or the feet too weary to be ever at her side. You notice day by day the vital spark is growing less, yet your exertions are not relaxed on your visits less often but on the contrary your solicitude grows. You are constantly by her side. The parents know by your attention that the case is critical and you intimate the same to them. How heavy your words fall upon their aching hearts and how it pains you to be forced to admit that you have done all in your power and that death will soon close the last sad scene. A few hurried breaths, a nervous twitch of those little hands, pale now in the clutches of death, a tremor of that tired and worn body and all is still. Death has

claimed its own. As you ride home in the early evening the shadows seem to cast a pall over the earth, and as you recall the scene of the home you have just left, all sad and disconsolate now, a tear trickles down the doctor's face and he sobs in bitter anguish and sorrow.

How sad the evening of life, yet how happy the man who can view the retrospect conscious that he has done the best — a life well spent, and look forward to the great future with the blessed hope of immortality.

Yet the evening of our life may come upon us in our youth or later still in manhood. How sad to see youth lose its bloom or manhood its strength. How valiantly we battle with the grim monster — retreating then advancing, maintaining our ground with a tenacity, a determination, a purpose with a sublime obstinacy a courage undaunted and even with a fortitude under defeat. Yet we are forced to retreat with great humiliation in the presence of an adversary who is more potent than we. Old age may look forward to the critical moment as a release from care, toil and suffering — not so with youth. There is nothing inviting in the grave — it is dark and cold. We shudder — yet let us hope that in the beyond there is a bright future where the sun never sets, but where it is perpetual day where sorrow, grief and pain are entire strangers and where the shadows never come and go.

Aside from his usual vocation the Country Doctor — like other people — has an opportunity to study nature in her varied forms. One's conception of life would necessarily be limited were he compelled to remain secluded and gather what information and inspiration there is from reading alone. We need something more. Nature, in her untrammelled beauty, is worthy of our consideration, and further it is the privilege of man to extend his observations and inquiries and and contemplate the universe at large; while other animals are confined to the limits which instinct prescribes. He exercises his judgment not only upon the things surrounding him but he extends his learning into the abstract principles of mathematics, science and art. In these abstract

speculations, he is dependent upon his own mind or the researches of others, but, when studying nature he notes carefully every object, and takes a survey of the field of knowledge for himself. The air he breathes, the earth he treads upon, the water he traverses — all contain wide fields for his researches and discoveries. When he is thus engaged he is in his natural sphere, suitable to his abilities, for he alone possesses those powers of reasoning and research.

The treasures which lie hidden beneath us — so inexhaustible, would furnish employment for the diligent and most ardent curiosity. Nature invites us not only to follow her in her every-day walks, but to trace her to her secret recesses; to delve down into the earth and learn its formative composition. Indeed, we are so surrounded that we learn daily from the smallest as well as the largest objects. All speak a language, as it were, direct to man, and to man alone. His researches extend into the objects of science and art, and he inspects the inhabitants of the globe. Whoever opens his eyes and looks around with much attention must perceive something grand and sublime. The high hills, rugged mountains, extensive forests, the broad expanse of water — all present something inspiring to the mind and pleasing to the eye. In summer, the fields clothed with grass, herbs and flowers, affording pasture for cattle; the fields with waving grain for the support of man. In autumn, when vegetation fades and we are deprived of these mere earthly lessons, our temporary loss is made up by the brilliancy of the celestial bodies. The numerous stars, planets, and meteors, as they make resplendent the canopy over us. In fact, whatever season of the year — whether spring, summer, autumn or winter — whatever hour of the day or night, we have objects at hand which should command our most serious attention. Things which may be called learning, and in the study of which a person may to advantage spend his leisure moments. Noting the earth as it appears in its undisturbed subterranean condition, we find it is composed of strata of different kinds. Often buried they find the skeletons of animals; also they find minerals valuable to man,

and every research brings forth new discoveries, and creates growing interests. Lastly, we come to consider the noblest and most beautiful part of creation. That part for which the earth seems to have entirely framed and for whose use and comfort it was dedicated.

These are its inhabitants. As an animal, man is distinguished from the rest of the creation by his reasoning and ingenuity, by which he applies those things of nature to his accommodation and use. The inhabitants of this globe are innumerable — not only the earth, sea and air teem with myriads of living creatures, but also vegetation; for oftentimes a single leaf is covered with endless numbers of inhabitants, whose various forms and properties are revealed to the microscopic observer. The human frame and all other things are formed with such exquisite skill that man cannot imitate the most simple fiber or vein. Our own structure, and the forms of things around, below and above us, proclaim the work of an all wise and all powerful being. We cannot behold Him with our mortal eyes, but we can in every part of the globe trace His presence, power and wisdom. He has clothed the earth with refreshing verdure, and stored it with useful metals. He has extended His bounties to all creatures, but their sources are unknown and unfathomable.

But in reviewing this subject from a human standpoint it would seem that Providence would have made things durable. The solid rock which has defied the storms and tempests for ages will finally disintegrate and crumble. The tree — the giant of the forest — will in time succumb to the destructive influence of the elements and man, the last and noblest work of His hand, like all other things mundane will finally pass away. It would seem that man should have been the most substantial and durable of all creation, but, evidently he is not. For at that stage in life when it seems necessary to have our faculties intact and the mechanism should work in perfect harmony for our preservation, their functions begin to fail. The eye-sight which was once clear is cloudy and the decrepit man needing good sight now more so than in all his life, gropes the remainder of his days in semi-darkness.

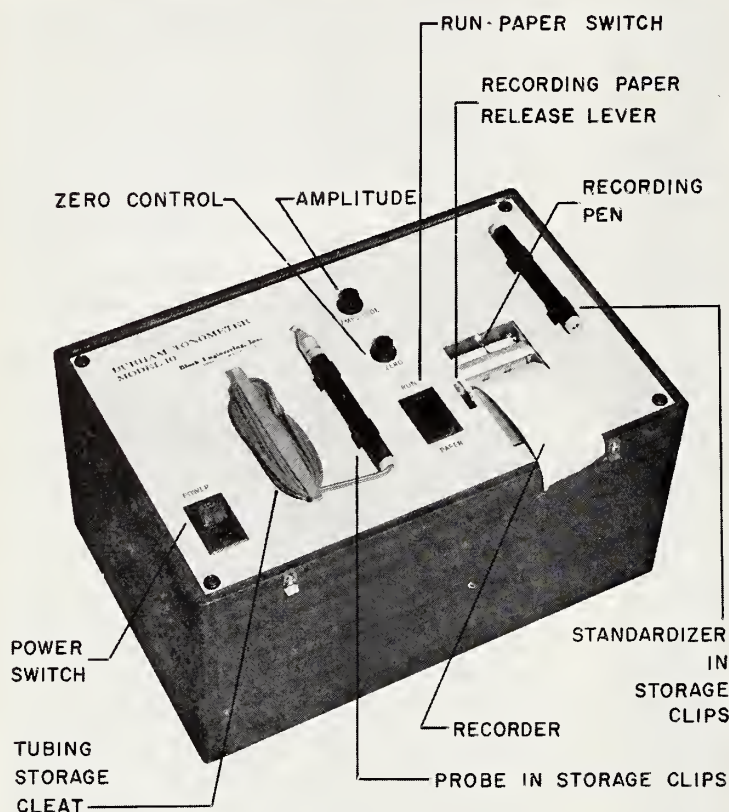
The teeth, very essential factors in the mastication of food and doubly so now that his digestion is weak, fall out. But thanks to the discoveries made in optics and in the comparatively new branch of surgery — dentistry, we can in a measure supply the deficiency. But the internal organs will finally cease to perform their functions. The delicate valves of the heart may become callous or rupture — the wheel broken at the cistern — then there is no remedy we can administer to give permanent relief — neither can we insert an organ to replace the worn or broken one. It seems that nature should have given man an eye, tooth and heart that was durable. Nature, we sometimes think in our puny judgment, has made great mistakes — things seem to be reversed and had we the say things would be entirely changed and doubtless for the worse.

Two friends sat beneath a large oak tree one summer afternoon. One of them spoke — this is a strange world — things seem to be out of all reason in all departments. You may notice in the business world those who should succeed, fail. The good, conscientious, honest man lives in penury and want while the wicked seem to prosper. The upright man who is endeavoring to better his condition and his fellow beings — who is a light and influence in the world for good, soon dies, while the thief and murderer will live for years, even in the confines of a prison. Nature seems to have made great mistakes not only in the animal but in the vegetable kingdom as well — for example and one that you can now plainly see. Over there in that field are large pumpkins growing on that slender vine — while this large oak under which we are sitting bears little acorns — nature is entirely wrong. To my mind it would have seemed more probable that the slender vine should have produced acorns and the large tree, the giant of the forest, should have produced pumpkins.

He had scarcely finished when a breeze passing through the branches of the tree caused quite a number of acorns to fall. "Bill," said the other looking at his friend, "suppose those acorns which fell on us had been pumpkins?"

The End

THE PRESSURE BALANCE TONOMETER



DURHAM TONOMETER PANEL

Figure 1. The Pressure Balance Tonometer.

• This paper presents a new tonometer to measure the intraocular pressure. The original concept and development originated at the Engineering Physics Laboratory of the duPont Company. Clinical testing and calibration determinations show close correlation with Schiotz, Goldmann and manometric comparisons.

DAVIS G. DURHAM, M.D.

By the application of pneumatic instrumentation techniques a new tonometer* has been evolved for measuring the intraocular pressure. This instrument was developed at the Engineering Physics Laboratory of the E. I. duPont de Nemours & Company, Incorporated, largely due to the efforts of Robert P. Bigliano, M.S.E.E. and John A. Masino, B.S. E.E.

*Manufactured by Block Engineering, Inc., 19 Blackstone Street, Cambridge, Mass. Distributed by Bausch & Lomb, Incorporated.

Dr. Durham is Director of Ophthalmology with Project Hope; Attending Chief in Ophthalmology at the Delaware Division, Wilmington Medical Center and Associate in Research on the Staff of Wills Eye Hospital.

Clinical trials were carried out by the author and also at the Glaucoma Clinic of the Wills Eye Hospital, Philadelphia, Pennsylvania. Calibration determinations were made by Dr. Maurice E. Langham, Director of Research, Wilmer Institute, John Hopkins University Medical School, Baltimore, Maryland.

These trials proved its value as a clinical instrument for measuring the intraocular pressure. Close correlation was shown to Schiötz, Goldmann and manometric comparisons.

The tonometer has the following advantages:

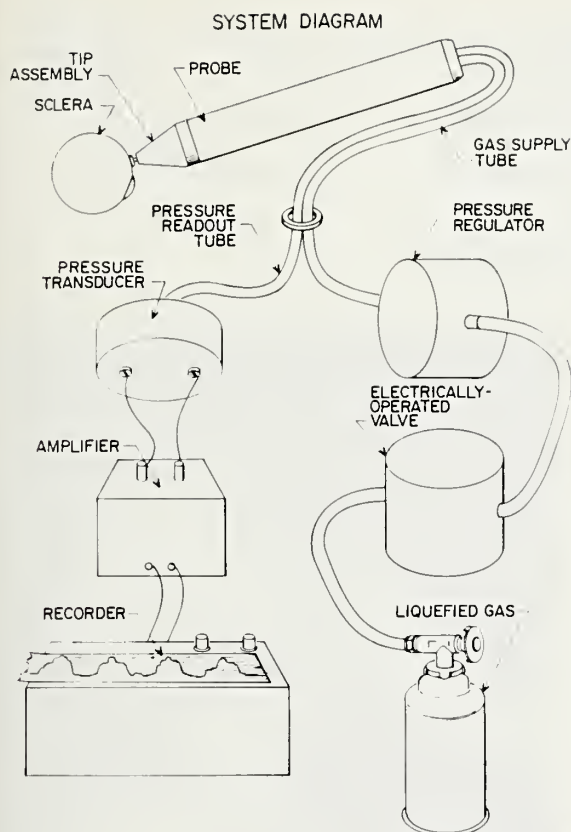


Figure II. System Diagram.

1. No anesthesia is necessary.
2. Permanent Recording of the pressure.
3. Accurate.
4. Rapid.
5. Usable on any eye in any position.
6. Portable.
7. No patient apprehension.
8. Performed by technician or aide.

The instrument (Fig. I) has four major components as shown in the System Diagram (Fig. II).

1. *The Sensor** (Fig. III). The pressure

*Patent Status of Sensor. Two patents covering the basic sensing unit have been granted: (a) Physiological Field Sensor, USP 3,099,262, R. P. Bigliano, and (b) Physiological Fluid Pressure Measuring Apparatus, USP 3,102,534, R. P. Bigliano; G. E. Meyer, and R. D. Morse. A third patent application, covering the entire sensing unit has been filed: Physiological Fluid Pressure Sensor Mount, U. S. Patent Application No. 318,897, J. A. Masino. These patents and applications are assigned to E. I. du Pont de Nemours & Co., Inc., Wilmington, Delaware.

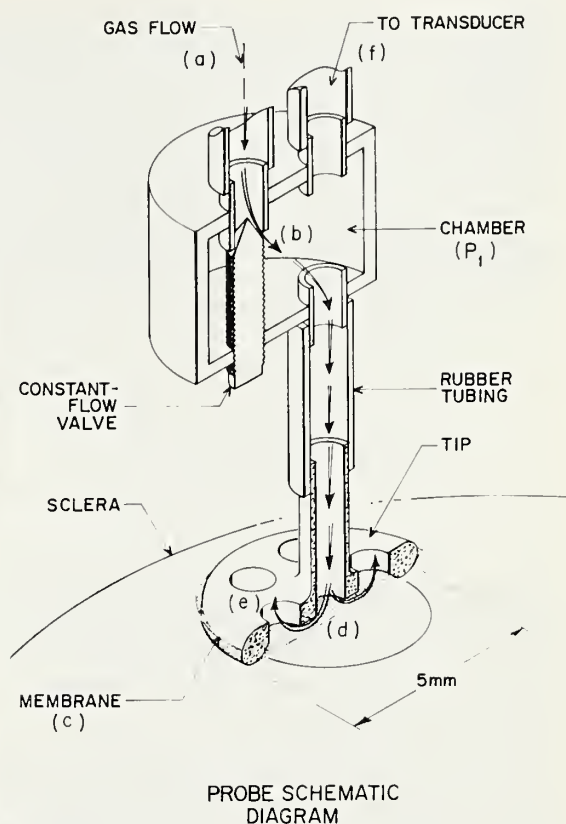


Figure III. Sensor.

within the sensor balances the intraocular pressure. This produces a pneumatic signal which is converted to an electrical signal by:

2. *The Pressure Transducer.* The output of the transducer results in a recorded pattern on:

3. *The Recorder.*

4. *The pneumatic supply* is by canned "Freon".

A more detailed description is provided in the article by Durham, Bigliano and Masino.¹

A typical recorded pattern is shown in Fig. IV. The readout is at the change in the first inflection point of the record. Experiments have shown that this point is recorded in 0.1 second and therefore before the intraocular dynamics of the eye have been altered. The application takes approximately 2 seconds.

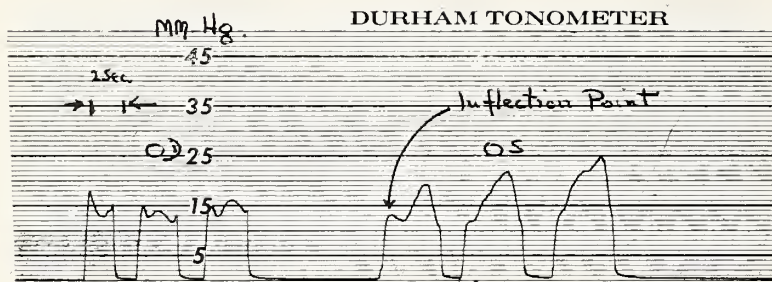


Figure IV.
Typical Recorded Pattern.

Figure V.
The Sensor applied to the eye.

The sensor being applied to the eye is shown in Fig. V. As the patient looks down, the sensor is applied to the sclera without anesthesia. There is no apprehension since the sensor is not seen by the patient.

Continuing clinical trials are planned at the Wills Eye Hospital and calibration experiments at Wilmer Institute of the Johns Hopkins University Medical School. Further engineering studies are being made for adaptation to tonography and ophthalmodynamometry.



REFERENCE
Durham, D. G., Bigliano, R. P. and Masino, J. A.: Trans. Amer. Acad. Ophth. Otolaryng.; 69:1029-1047 Nov.-Dec. 1965.

PUBLICATIONS AVAILABLE

Reprints of the proceedings of Combined Clinical Staff Conference at the NIH, published in the JAMA, are now available to interested physicians on request.

Protein Abnormalities in Neuromuscular Diseases—Parts I and II (Vol. 195, Part I, Feb., 1966—Part II, March, 1966). Address your request for reprints to the above agency, Room 1-N-248, Building 10, Bethesda, Maryland 20014.

Two new publications entitled: *Chronic Respiratory Diseases, A Growing Menace* and *Management of Chronic Obstructive Respiratory Diseases* have been released by PHS and are being mailed to physicians throughout the country. Additional copies may be purchased in quantity from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 at 30c a copy, or \$22.50 per 100 copies.

The two-volume *Research Grants Index* (PHS Publication No. 925) is also available at \$13.75 for the set by writing the same address, above. This new edition summarizes more than 17,000 Research Projects supported by the PHS during 1965.



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



THE PROFESSIONAL FEE CONCEPT

The Professional fee is not a new concept for it has been utilized by health professionals for many years. It is perhaps a new concept to Pharmacy for the teachers of pharmacy administration over the years have promoted marginal systems where the cost of the medication becomes a function in determining the final fee.

To have your patient utilize his medicinal dollar in the most economical fashion it is imperative that pharmacy continue to promote the true professional fee concept and that the physician promote and embrace this philosophy.

The professional fee is a concept based on a figure determined by each pharmacist on an individual basis. He must arrive at this fee from his compilation of facts derived from his practice. When the fee has been calculated it remains standard until a re-evaluation period arrives.

The final fee for a prescription therefore has two components: 1) the wholesale cost of the medication and 2) the fee for service. By utilizing this method the curve which could be plotted from any given practice will exhibit in comparison to the marginal curve a slight increase in the lower marginal fee and a considerable decline in the higher marginal fee.

There are many pharmacists in the State who are now employing the fee method and more and more are investigating for a change in the near future. The fee concept will provide:

- 1) The most economical use of the patients medicinal dollar
- 2) Decrease the time involved in determining the prescription fee
- 3) Aid government programs in acquiring actuary studies for many of the programs which have been successfully initiated under fee for service
- 4) Reduction of the subsidization of the relatively inexpensive medication by the relatively higher ones.
- 5) Provide the pharmacist with a professional atmosphere where he charges for services rendered and does not make the cost a function of determining the final fee.

If you have the opportunity to discuss this philosophy with the pharmacist who provides your office with pharmaceutical service, you will be performing a service to your patient and to the pharmacist if you will encourage him to investigate this important system. Perhaps his greatest obstacle is your acceptance. Why not explain that you are in favor of such a progressive step?

FILMS AVAILABLE

A film entitled *Fertility Control: The Role of the Oral Contraceptive* has been produced as an educational feature for the medical and allied professions by Eli Lilly and Co. It has been selected for a 1966 Golden Eagle Award by C.I.N.E. and is distributed through Eli Lilly and Company's audio-visual film library.

Editorials

A DECADE OF THE DELAWARE MEDICAL JOURNAL 1956-1966

Text

The Delaware Medical Journal, formerly known as the Delaware State Medical Journal, in common with most state journals was founded with the purpose of reporting to members of the State Society all business and scientific material presented at the Society meetings. For many years these transactions, plus an occasional voluntary contribution, supplied adequate material to produce a well-balanced publication, both from the standpoint of readability and also from the important factor of compliance with Postal Regulations which prescribe a maximum ratio of advertising to text.

Subsequent to World War II, several trends took place that caused a change in this well-established pattern. The volume of advertising was sharply increased, creating in turn a necessity for more text; on the other hand, the portion of the By-Laws of the Medical Society of Delaware (still in force) which requires a speaker at the annual session to give a copy of his paper to the Editor was most difficult—if not impossible—to enforce. A third factor was the rapid growth of a new type of medical publication—the free “throw-away.” Finally, members of our Society were turning toward the national journals for publication.

The Editor, Dr. W. Edwin Bird, with wisdom and originality, devised a plan to devote at least one issue per year to each of the four Wilmington hospitals with another issue each to the Board of Health and the State Hospital. These specified issues, together with a few scientific papers from the Annual Session plus the transactions of the House of Delegates gave the Journal a new lease on life, and it subsequently prospered for a number of years.

At the untimely death of Dr. Bird in 1956, your present Editor—completely devoid of

editorial experience—was drafted by the Publications Committee. During the first few years, there was no lack of material, but the amount of advertising continued to increase, and in several years the situation became strained because of an ever-present threat of insufficient material. Your Editor—believing that the Journal was primarily intended for the general practitioner—actively solicited review articles but only one resulted despite numerous promises. Several medical friends graciously favored the Journal with material—a valuable but small source.

Then, in 1961, the pendulum swung to the other extreme. The much publicized investigation of Senator Kefauver was immediately followed by a drop in advertising so drastic that a sharp curtailment in text was necessitated because of the cost factor. For the first time, the Journal was in the unenviable position of finding it necessary to delay publication of excellent papers. When advertising finally regained its volume in 1964, the damage had been done and many an “old contributor friend” of the Journal could remember only the paper that they submitted during the “depression” that never had reached publication. This was the beginning of the present situation in which the shortage of text has been so acute that there have been months where it was not known until the last moment that the Journal would appear.

To some extent, this problem has involved all State Journals, and there has been talk—formal and otherwise—as to whether the State Journal in general is a thing of the past.

Your Editor believes that in spite of the tremendous number of new journals—national specialty journals as well as “throw-aways”—there is still a definite place for the State Journal.

For the past two years, even prior to the corporate merger of the three non-sectarian

hospitals in Wilmington, the staffs of these hospitals have met weekly for clinical conferences of their major services. The quality of material presented in these conferences has been extremely high. Many of our members unable to attend these conferences could benefit greatly by a selected publication of these proceedings.

Format

Until fairly recently the format of all medical journals was dull and drab. Following World War II, the results of numerous attempts were seen throughout the field of medical periodicals to make the journals more attractive. Shortly after assuming the editorship in 1956, your Editor made several attempts to improve the format of our Journal but was unable to make any significant progress because of a lack of knowledge and training in this field. Our format was so poor that a consultant retained by the association of state medical journals advised us to either make drastic changes or to discontinue publication.

In 1960, the Journal was fortunate in obtaining the services of Mrs. Melita A. Phillips on a part-time basis. Mrs. Phillips had training along the lines of typography and page lay out, and the results of her association with the Journal became immediately evident. In fact, in 1961 the change was so obvious that the Delaware Medical Journal won the distinction of having the best format of all the State Journals. This achievement is due entirely to the efforts of Mrs. Phillips who not only brought the Journal up in 1961 but has maintained these high standards up to the present time.

Editorial Comment

Review of the editorials of a decade shows that many subjects have been discussed. It is of interest, however, to note that two subjects have been given more than their proportionate time.

The first has been the comments of this Editor regarding speed of ambulances and the fact that ambulances do proceed through red lights and have at times been involved

in serious accidents. This practice continues to exist; in fact, at times it seems to be getting worse. Your Editor still feels strongly that in the average ambulance run, the few minutes saved by fast driving do not determine the difference between life and death, especially when it has been shown that in many instances these ambulances are not on an emergency call but are merely taking a person to or from the hospital for purposes such as x-rays or other examinations.

The second topic which has received more than its share of discussion in these columns has been the relationship of the physician to his patient, the backbone of public relations. We have repeatedly stated that in our opinion the number one criticism of physicians is not the fee charged but the fact that so many physicians are either unwilling or unable to take *time* to explain to the patient in terms he can understand the fundamental points about his complaints.

Recently your Editor was visiting an old medical friend who is practicing in a small New England town. After dinner the conversation dwelt upon 25 years of medical practice and his friend submitted the following formula that he had tried to follow in the practice of medicine: To give the best possible medical care *promptly, economically, and cheerfully*. If all physicians would follow such a plan, it would be the most effective type of public relations.

The Future

After 10 years as Editor it seems time to pass these responsibilities on to someone else. Your Editor believes that the Delaware Medical Journal can be one of the best and strongest State Medical Journals in the country, and he believes that the next Editor will be able to achieve this objective. It is obvious, however, that no one can perform successfully in this post without the complete backing of the Society. This is *your* Journal and its success depends largely upon the desire of each individual member of our Society as to whether or not he believes the Journal to be worth preserving.

I do.



Delaware Academy of General Practice

THE REQUISITES OF EFFECTIVE THERAPY

In medical practice, the requisites of effective therapy constantly confront the physician. The patient's condition may present an easy case, a difficult problem, or an enigma. The solution of the enigma may elude the doctor even at the necropsy. With reference to the patient's comfort and/or recovery, it is necessary to be mindful of the factors concerned in obtaining the best result as soon as possible.

In general terms, the categories of practice in which therapy is applied are preventive medicine, internal medicine, surgery, obstetrics, anesthesiology, and psychiatry. The media of therapy are drugs, the modalities of physical medicine, occupational therapy, psycho-therapy, the spiritual guidance of the clergyman, and the physician's added advice concerning rest, work, habits, diet, etc. The "shotgun prescription" is mentioned to be condemned. Treatment must depend upon all obtainable and available clinical data, logically correlated. It is true that many diseased states are self-limited. It is equally true that judicious therapy will more often result in a cure or in as good a therapeutic result as can be reasonably expected.

The doctor's professional knowledge: Despite the exigencies of a demanding vocation, the physician must keep abreast of current knowledge. In the secular world, "nothing is permanent except change" and the doctor is obligated to be modern in therapeutic perspective and practice.

The diagnosis: Effective therapy depends directly on an inclusive diagnostic opinion. The validity of the diagnosis rests on the doctor's knowledge, experience, and judgment, in the given ascending order. The astute physician remembers the adage, "Let the patient talk. He is trying to tell you the diagnosis."

Nursing service: To the members of the nursing profession the writer extends a sin-

cere appreciation of the indispensable value of their professional services. Modern practice would be impossible, especially in hospitals, without professional nurses.

The avoidance of harmful media: An injurious remedial agent may delay recovery, augment the patient's discomfort, favor morbidity, or be the proximate cause of the too-early arrival of the "Dark Angel." Therapeutic decisions must be formulated with consummate care.

Treating the patient as a person: The patient is an individual. The human touch in the doctor is a valuable part of any course of treatment. The patient has three immediate problems, the illness, the reflection of the illness in the psychic sphere, and the need to have "human relationship" with the physician. A coldly scientific therapeutic attitude, without question, chills curative endeavor.

The choice of treatment: It is well to remember that the usual patient presents only one illness at a time. Also to be remembered is the possibility of more than one illness at the same time, or the sequential development of another illness. The intimate inter-relationship of psyche and soma requires diagnostic consideration. The placebo is the last remedy to be considered. If used, it must be re-inforced with psycho-therapy.

The element of time: The period required for the optimum effects of remedies depends on clinical and prognostic experience. The physician must begin his curative efforts soon enough, and continue them until treatment is no longer required.

The successful therapist uses remedial agents in "the present light of knowledge and experience." To use an old medical aphorism, somewhat modified by the writer, he "cures when can, relieves often, and comforts always."

Morris Harwitz, M.D.



President's Page

ILLEGITIMACY

If the 'message' on this page, for this month, arouses a great tumult of indignation and shouts of indelicacy, it is so intended. The subject is illegitimacy. In the past, much has been said and many words have been written bemoaning the unfortunate facts of life. Pious hands have been lifted while the statement is made that 'Education' is the answer to this ever-present blot. To the best of my knowledge, no individual, no group and no agency is carrying the ball and the figures keep repeating.

I will quote some official figures, for the state of Delaware for the calendar year 1964.

In the year 1964, there was a total of 11,371 live births of which 1,215 were children born out of wedlock. This amounts to a percentage of 10.6. Another way of stating, possibly more glaringly—approximately 1 out of every 10 children born, was illegitimate.

To delve deeper: in one ethnic group, there was a total of 2,334 live births, of which 872 were children born out of wedlock. This amounts to a percentage of 37.36; or, almost 2 out of every 5 children born were illegitimate.

In this same group, there were 361 children born to un-wed mothers ranging in age from 13 to 19. Pleasant reading!

In the State of Delaware there are numerous clinics and agencies where contraceptive advice is available. These agencies operate so that no group or religion is offended. Nevertheless, for the most part, the price of such advice is a wedding band or *one illegitimate child*.

I now make the suggestion of offering contraceptive advice to any individual who applies, regardless of age or marital status; in full anticipation of the tremendous hue and cry that promiscuity will be abetted. All I ask is that you re-read the above figures and remember that morality can not be legislated. This fact of life, which has always been swept under the rug, has been present from time immemorial. Even the use of the scarlet letter 'A' in colonial times was no great deterrent.

A final sobering question: what is the eventual outlook for the thousands of children brought into this world under these circumstances, in the State of Delaware?

A. M. Gohret

In Brief

A Letter To . . .

Dr. Andrew M. Gehret, *President, Medical Society of Delaware*

We wish to call to your attention the existing program which allows for licensed medical doctors in Delaware to become members of the courtesy staff at the Delaware State Hospital or the other facilities of the Department of Mental Health. A member of the courtesy staff has opportunity to follow his patient in the State Hospital, and in conjunction with the physician in charge of the service to work out a treatment regimen appropriate to the patient. The physician on the courtesy staff may bill his patient for services just as he would his patient in a community general hospital. The advantages of this program are to allow for the rapid return of the patient to his home and to maintain continuity of service with his private physician.

Physicians may obtain application forms to the courtesy staff by writing directly to the Superintendent of the Delaware State Hospital, the Governor Bacon Health Center and/or the Hospital for the Mentally Retarded. We would appreciate your disseminating this information to all members of the medical profession in Delaware.

Dr. Daniel Lieberman, *Commissioner of Mental Health, Delaware*

Speakers On "Doctor's House Call"

Speakers for September on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Sept. 6: Joyce Anderson, M.D., *Diabetes*; Sept. 13: A. Yvonne Russell, M.D., *Services for Handicapped Children*; Sept. 20: R. O. Y. Warren, M.D., *Medical Education*; Sept. 27: Charles Levy, M.D., *Over Exertion and the Heart*.

Wanted—Opening For Internist

Jerome S. Reich, M.D., has written to the Medical Society for an opportunity to practice medicine in Delaware: "I will finish my internal medicine residency at Mt. Sinai Hospital, N.Y., in June, 1967. I am interested in practicing in the State of Delaware and would like to associate with another physician or group of physicians. I am a graduate of Tulane Medical School; will be trained in Internal Medicine and Cardiology; have completed my military service; am married and have two children." Doctor Reich would appreciate being contacted if any member knows of such an opening. Write him direct: 60-01 C, 194 Street, Flushing, New York.

Of Interest?

"Amendment XIX, known affectionately as Title 19; in California as "Cal-Med" and in Iowa as "Task Force 19" could be more ominous than Medicare itself if improperly used. Federal funds are available to any state which adopts Title 19 by 1970. New York has already passed the law. If it gets the expected approval of HEW, a 30-year old father with a wife and two children, with \$115.00 a week take-home pay and \$3,000 in the bank may no longer have to pay his hospital, doctor or drug bills. They call this Medic-Aid." *Insurance Economic Surveys*.

Out-Patient Services Committee Program

The next four meetings of the Wilmington Medical Center's Committee for Out-Patient Services are listed below. The Committee meets weekly at 9:30 a.m., Executive Offices of the Wilmington Medical Center, Nurses' Residence, Delaware Division:

DATE	TOPIC
Sept. 7, 1966	20. Administrative Meeting
Sept. 14, 1966	No meeting
Sept. 21, 1966	21. Tumor Clinic
Sept. 28, 1966	22. Present and proposed space available for Out-Patient Services.

PHS-HEW News Items

Grants are being awarded for statewide planning under the Solid Waste Disposal Act. Each state solid waste disposal plan will be coordinated with air and water pollution control and urban and industrial development to avoid solutions for one problem worsening others. Plans will cover all solid wastes—urban, industrial, and agricultural. The Office of Solid Wastes supports research, assists in training of personnel, awards grants for demonstrations to improve disposal technology and provides state and local governments with technical assistance on solid wastes problems. Fourteen states have received nearly \$400,000 in Federal grants so far. Delaware is not one of those listed at the present time.

A contract awarded to the Presbyterian Medical Center, San Francisco, by PHS will allow the evaluation of a pilot study course given to six women physicians who have been out of touch with the medical profession for 10 or more years. About 26,000 women physicians are either retired or no longer in practice. Because of the need for more physicians the Presbyterian Medical Center will produce this program to enable other medical centers to set up re-entry courses for women physicians able and desirous of returning to active practice.

The Month In Washington

The PHS Advisory Committee on Immunization has concluded the following: Routine typhoid fever vaccination is not needed any longer in the U.S.A. The incidence of typhoid in this country has declined steadily for many years and is now less than 600 cases a year. A continuance of the downward trend is predicted.

That although relatively little influenza is predicted for the 1966-67 season, vaccinations are still recommended after September 1 for certain high-risk groups—such as the chronically ill and older persons. In case of a limited outbreak of influenza, it is important that immunization be carried out before it occurs in the immediate area since there is a two-week interval before development of antibodies.

A Senate Government Operations Sub-Committee said that, "Knowledge regarding the risk of chemical pesticides will have to be broadened and refined considerably in order to provide clear-cut answers to questions forced by the increasing need for pest control."

The Food and Nutrition Board of the National Academy of Sciences believes that until more is learned about fats, it may be well for many Americans to moderately reduce the amount of fats they eat and substitute poly-unsaturated fats.

In The News

C. A. D'Alonzo, M.D., was a member of the guest panel at the Fourth Post-Graduate Course in Occupational Medicine, titled, *Newer Approaches to the Health Examination*, held in Columbus, Ohio last month.

Auxiliary Affairs

1965-66 REPORT OF THE WOMAN'S AUXILIARY TO THE KENT COUNTY MEDICAL SOCIETY

This report has been most difficult to compile. Perhaps if the writer were an artist, the program, the participants and the scene could be placed upon canvas and the picture would reveal a harmonious blending of all three. It could be splashed with a few vivid colors representing the highlights of the year, with the background a colorful and quaint landscape that is rapidly changing.

The year 1965-66 represents another era of the "inward" and "outward" look. Active membership remained stable with the loss of one member leaving the area and another joining us. We lack only two members for 100% goal, which we accept as a challenge for the future.

Our by-laws were ammended to change the term of the officers from one year to two. This change certainly can represent the positive thinking of the members toward developing a more "upward" look.

The October scene of our first meeting was at the home of one of our members who invited the auxiliary to a luncheon. It was felt that every effort should be made to extend the warmth of hospitality that would "re-captivate" the interest of some of our less active members and stimulate the programs success of the year. It accomplished both goals and we were off to a year of optimism.

The Membership Committee began work on a past goal of having the Dover Air Force Base doctors' wives join our group. With great zeal and effort, the envisioned success of this portion of the picture began to take form. In Februray, we were delighted that our first step toward a cooperative relationship between the groups resulted in the attendance of seven potential special members. They expressed a deep interest in the total program and should prove an asset to our local auxiliary as well as the state and national programs.

The Academy of General Practice held a

scientific meeting in Dover and the auxiliary was requested to develop a program for the visiting wives for the day. A tour of Dickerson Manor and Playtex Park culminating in the afternoon with a visit to the Governor's suite in Legislative Hall was highlighted by the First Lady of the state welcoming and guiding the group on a tour of the State House. A style show at the dinner in the evening did add flavor for those present.

The A.M.E.R.F. Committee had a successful year with the State Chairman also serving as our local leader. With no high pressure salesmanship, the Kent Auxiliary closed its books at the end of the year with the largest sale of Christmas cards per member and the largest contribution per quota. It is with the quiet and soft tones that the picture of our activities are brushed on the canvas.

The Health Careers Committee worked diligently to aid the Future Nurses Club to continue with their annual tea. The Williams Henry High School Club was hostess this year with one of our local physicians as guest speaker.

Christmas gifts of money to our Kent County Nurses Scholarship recipients and charms to the outstanding members of each of the six Future Nurses Clubs of the County were awarded at commencements of the various schools.

All of the committees were alert although some had little to report due to the little activity in their areas.

As a summary of the year it can be said that we altered a few things of the past—that is growth. We accepted contemporary challenges and gave our best. We look to future goals to be accomplished and realize that our potential growth is boundless.

*Virginia M. Dennis, President
Women's Auxiliary to Kent County
Medical Society*

OFFICERS AND COMMITTEES, 1965-1967

PRESIDENT, Andrew M. Gehret, M.D.
VICE-PRESIDENT, Rhoslyn J. Bishoff, M.D.
PRESIDENT-ELECT, H. Thomas McGuire, M.D.

SECRETARY, Joseph W. Abbiss, M.D.
TREASURER, Allen D. King, M.D.

AMERICAN MEDICAL ASSOCIATION — DELEGATE, H. Thomas McGuire, M.D. — ALTERNATE DELEGATE, William O. LaMotte, Jr., M.D.
DELAWARE ACADEMY OF MEDICINE — REPRESENTATIVE, Norman L. Cannon, M.D.
GROUP HOSPITAL SERVICE TRUSTEES: Herbert M. Baganz, M.D., William B. Cooper, M.D., Norman P. Jones, M.D., H. Thomas McGuire, M.D., Karl S. Russell, M.D., Allan H. Seeger, M.D.

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BUDGET

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Charles Allen, M.D.
Alfred E. Bacon, Jr., M.D.
W. Phillip Portz, M.D.
Charles Walker, Jr., M.D.

PROGRAM

*Otaker J. Pollak, M.D.
Richardson B. Glidden, M.D.
Arthur F. Zimmerman, M.D.

PUBLICATIONS

*A. Henry Claggett, Jr., M.D.
Joseph W. Abbiss, M.D.
Davis G. Durham, M.D.
Robert B. Flinn, M.D.

PUBLIC LAWS

*William O. LaMotte, Jr., M.D.
Rhoslyn J. Bishoff, M.D.
Christopher R. Donoho, M.D.
James E. Marvil, M.D.
William J. Vandervort, M.D.

SPECIAL COMMITTEES

ADVISORY, WOMAN'S AUXILIARY

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John W. Howard, M.D.
Emerson Y. Gledhill, M.D.
Haynes B. Cates, M.D.
John M. Levinson, M.D.

AGING

*Allston J. Morris, M.D.
John W. Barnhart, M.D.
Felix Mick, M.D.
Verna Stevens-Young, M.D.
Brice S. Vallet, M.D.
Henry V.P. Wilson, M.D.

AMA-ERF

*Gustave K. Berger, M.D.
Joseph A. Elliott, M.D.

Robert B. Flinn, M.D.

Joseph F. Hughes, M.D.
Norman P. Jones, M.D.

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Joseph W. Abbiss, M.D.
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EDUCATION

*Leonard P. Lang, M.D.
Jason L. Campbell, M.D.
John A. J. Forest, Jr., M.D.
G. Barrett Heckler, M.D.
Robert C. Kingsbury, M.D.
David Platt, M.D.
Rubin A. Teixido, M.D.

GRIEVANCE BOARD

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Gerald A. Beatty, M.D.
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*John M. Levinson, M.D.
Charles L. Miller, M.D.
Katherine L. Esterly, M.D.
A. M. Devenis, M.D.
William A. Leitzinger, M.D.
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John C. Rawlins, M.D.

MEDICAL ECONOMICS

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C. E. Graybeal, M.D.
Pierre L. LeRoy, M.D.
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MEDICAL SCHOLARSHIPS

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Sveinbjorn S. Bjornson, M.D.
Edward S. Dennis, M.D.
J. Leland Fox, M.D.
Oliver A. James, M.D.

MEDICAL SCHOOL FOR DELAWARE

*James E. Marvil, M.D.
James Beebe, Jr., M.D.
Leonard P. Lang, M.D.
Charles Levy, M.D.
James T. Metzger, M.D.
Frank T. O'Brien, M.D.
Otakar J. Pollak, M.D.
Daniel J. Preston, M.D.
Willard F. Preston, M.D.
Howard Wilk, M.D.

MEDICAL SERVICE & PUBLIC RELATIONS

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Alfred E. Bacon, Jr., M.D.
John W. Alden, Jr., M.D.
W. Phillip Portz, M.D.
Arthur F. Zimmerman, M.D.

MEDICARE ADJUDICATION

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Benjamin F. Burton, M.D.
Edward S. Dennis, M.D.
William R. Hazzard, M.D.
Oliver A. James, M.D.
Walter W. Moore, M.D.
Richard Raiber, M.D.

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Kurt Anstreicher, M.D.
S. Ward Casscells, M.D.
Leslie M. Dobson, M.D.
Martin Gibbs, M.D.
Robert M. Marine, M.D.
James R. McNinch, M.D.
Gerald J. Savage, M.D.

PREPAYMENT

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Olin S. Allen, II, M.D.
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William O. LaMotte, Jr., M.D.
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Howard Wilk, M.D.

RELIGION AND MEDICINE

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Sarah Bishop, M.D.
James J. Gallagher, M.D.
Harold S. Rafal, M.D.
Richard H. Weiss, M.D.

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Harry G. Neese, M.D.
John C. Rawlins, M.D.
William D. Shellenberger, M.D.

UTILIZATION OF FACILITIES

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VENEREAL DISEASE

*Norman L. Cannon, M.D.
Winder L. Porter, M.D.
Donald Schetman, M.D.
Casimir Vileisis, M.D.
Raphael A. Zaragosa, M.D.

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LIAISON WITH DELAWARE CHAPTER, AMERICAN HEART ASSOCIATION — Lemuel C. McGee, M.D.
LIAISON WITH DELAWARE CHAPTER, AMERICAN DIABETES ASSOCIATION — Herbert M. Baganz, M.D.
LIAISON WITH DELAWARE TUBERCULOSIS AND HEALTH SOCIETY — Gerald A. Beatty, M.D.
LIAISON WITH MENTAL HEALTH ASSOCIATION OF DELAWARE — Herman J. Bennett, M.D.
LIAISON WITH CHILD DIAGNOSTIC AND DEVELOPMENT CENTER — Henry Stroud, M.D.
LIAISON WITH VOCATIONAL REHABILITATION COMMISSION — S. Ward Casscells, M.D.

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MRS. JOHN W. HOWARD, *President Elect*
MRS. EMERSON GLEDHILL, *Treasurer*

MRS. JOHN LEVINSON, *Corresponding Secretary*
MRS. HAYNES B. CATES, *Recording Secretary*

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MARTIN B. PENNINGTON, M.D., *V.-Pres.*
HOWARD WILK, M.D., *Secretary*
ALFRED E. BACON, JR., M.D., *Treasurer*

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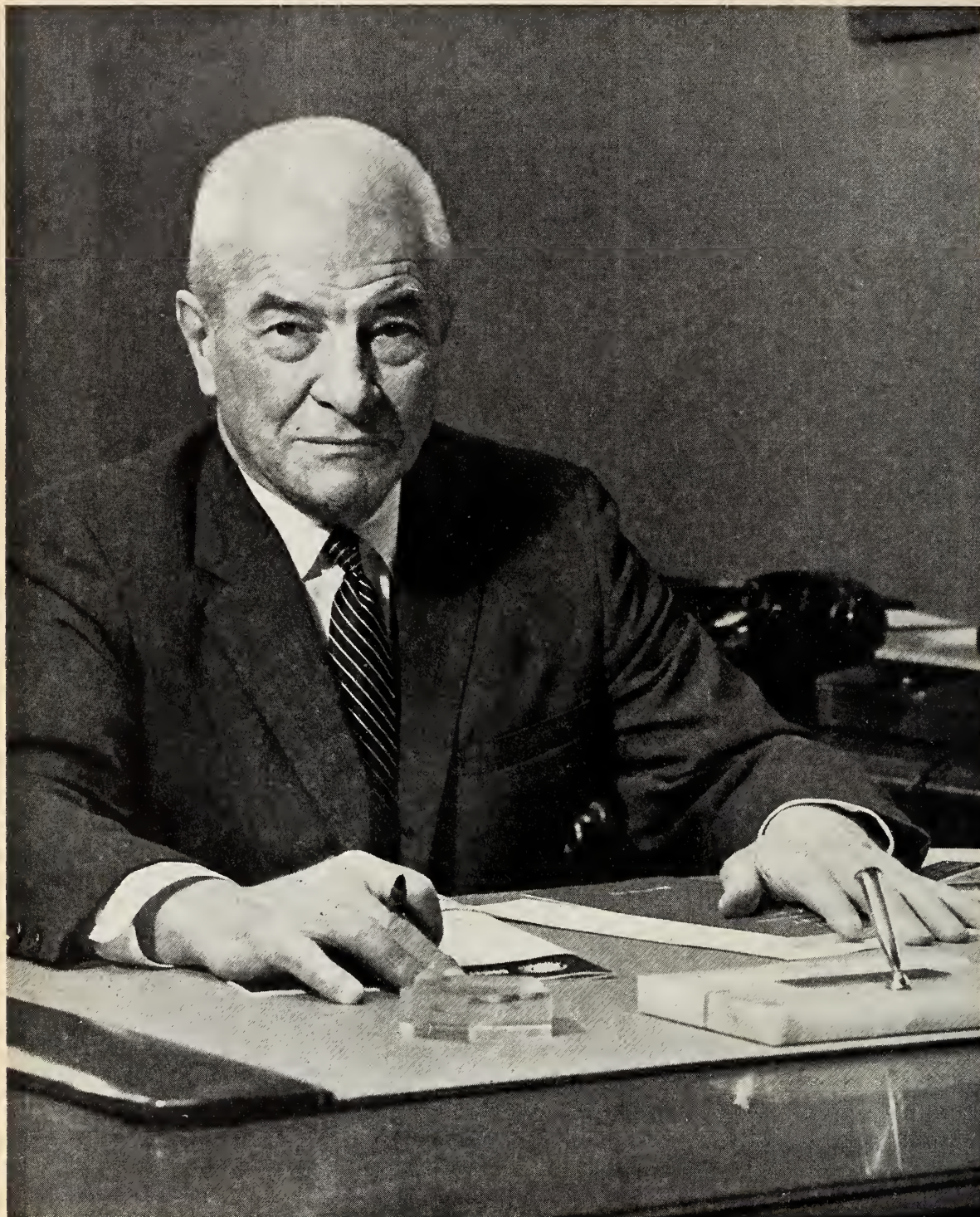
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President, Medical Society of Delaware, 1965-1966

A COMPARISON OF THE MANTOUX AND TINE TESTS IN DELAWARE MIGRANT WORKERS

• The following paper was presented by Dr. Affronti at the annual National Tuberculosis Association meeting in San Francisco, May 25, 1966. In this cooperative research program, involving official as well as voluntary agencies, the following participated: Delaware State Board of Health, Delaware Tuberculosis & Health Society, U.S. Public Health Service, and The George Washington School of Medicine.

LEWIS F. AFFRONTI, PH.D.
ROBERT C. PARLETT, M.D., PH.D.

In conjunction with the Delaware State Board of Health's ongoing screening program for migrant workers, our continuing cooperative project for tuberculous serological testing was expanded to include a comparative study of the Tine and the Mantoux tests. Our interest in undertaking a comparison of these tests was originally stimulated as the result of data that had been obtained in our laboratory from biochemical studies of the dose control of the Tine test.

However, it soon became apparent that a project of this nature would provide both the participating Health Association and the operational research group undertaking such a study with a new dimension of public health cooperation and training, yielding program benefits not only in tuberculosis detection and

control, but also in the area of epidemiologic opportunities and epidemiologic-related experiences. Such a program was envisioned and given impetus through the efforts of Frank Pierson, Director of the Delaware Tuberculosis and Health Association, and, moreover, given encouragement and active support as manifested by the fine cooperation of the Delaware State Health Department.

This present report is a comparison of the tuberculin Tine test with the intradermal PPD-S test, intermediate strength (5 TU). The tuberculin PPD-G, prepared from the scotochromogenic Gause strain of *Mycobacterium*, was also included in this comparative study because of data obtained from over 2,000 itinerant workers in a previous cooperative study, also with the Delaware Tuberculosis and Health Association. That study attempted to evaluate the gel double diffusion test as a case-finding mechanism among the

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TABLE 1

A comparison by per cent of the positive and negative reactions by readers

	PPD-S		PPD-G		Tine	
	-	+	-	+	-	+
Reader 1	81.2	18.8	80.8	19.2	58.3	41.7
Reader 2	80.9	19.1	77.9	22.1	58.0	42.0
Reader 3	79.0	21.0	74.4	25.6	58.8	41.2
Average	81.3	18.7	79.7	20.3	61.5	38.5

migrants. The data from that study offered the possibility that individuals whose sera were positive but who otherwise gave no indication of tuberculous disease, might do so because of possible infection with members of the unclassified mycobacteria.

The tuberculin Tine test units for this study were supplied by the manufacturer through the courtesy of Drs. Virgil Place and Richard Fallon. All of the tuberculin used on the Tine units came from a single lot—No. 83. This single lot was used, since it is well-known that OT type tuberculins vary from batch to batch, and that the conclusions drawn from any comparison relate to a particular batch only. We were advised that Tine units prepared from tuberculin of lot No. 83 would be obtainable on the open market for the next few years and thus, being in sufficient supply, it would be a desirable lot for such a study. The tuberculin Tine test is currently prepared by mechanically dipping the points of the tines once into 4x concentrated tuberculin solution, rather than by the previous multiple hand-dipping process with drying periods in between. It would be expected that this mechanical improvement would provide greater uniformity.

PPD-S, the international standard, and the PPD-G were supplied prediluted in intermediate strength, through the kindness of Dr.

Lydia Edwards of the U.S. Public Health Service.

It has been recognized for some time that although there were a number of studies which have attempted to compare the Tine test with the Mantoux method, few were considered by members of this ATS committee to be well-controlled and truly comparative evaluations. Their protocol was designed with the intention of obtaining statistically valid results by focusing on points which were absent or ill defined in other studies, such as variation among readers, independence of reading, variation depending on the population group tested, and the prevalence of atypical mycobacteria in the geographic area or in the group tested.

Disposable glass tuberculin syringes were filled with 0.1 ml of the PPD-S and the PPD-G tuberculins. The needle covers were replaced and sets of prepared syringes were stored in covered trays at refrigerator temperature. The trays were taken to the field in ice chests and kept cool when in use. The Tines were stored at room temperature and placed in the ice chests when transported to the field.

When three skin tests were given, the Tine test was placed on one forearm and the two Mantoux tests on the other forearm, in an alternating manner, resulting in the randomi-

TABLE 2

Comparison of the PPD-S (5 mm) and Tine Test (2 mm)

++		--		+-		-+		%	%
No.	%	No.	%	No.	%	No.	%	Agreement	Disagreement
263	17.1	973	63.3	8	0.5	293	19.1	80.4	19.6

Comparison of the PPD-S (5 mm) and Tine Test (10 mm)

++		--		+-		-+		%	%
No.	%	No.	%	No.	%	No.	%	Agreement	Disagreement
263	17.1	1210	78.8	8	0.5	56	3.6	95.9	4.1

zation of both test sites and antigens.

The tests were read 48 hours after they were given, and every test was read by the same three readers throughout the course of study. Our readers were three second-year medical students who were given instruction and training in the administration and reading of the skin test by a trained nurse from one of the expert skin-testing teams of Drs. Palmer and Edwards of the U.S. Public Health Service. The individual readers were unaware of each other's readings. All readings were done in the fields, in daylight, with the readers seeing only one arm of the subject at a time. The PPD tests were recorded (1) in terms of the largest diameter of erythema in millimeters; (2) largest diameter of induration in millimeters, followed by a measurement at right angles to the first measurement of induration; and (3) subjective hardness of induration, graded on a scale ranging from 1-5. The largest diameter of induration in millimeters was recorded for each of the Tine readings. Where induration around the puncture sites of the Tine tended to coalesce, the total induration was measured.

It is evident that the medical students played a vital role in the execution of this project. As an added benefit of this research,

it provided an ideal situation in which to involve pre-clinical medical students and to provide them not only with some practical, detailed epidemiologic experiences, but also with an awareness of the opportunities in public health.

Of the population tested, 62% were adults and 38% were children (13 years and under). Over 70% of the individuals tested were Negroes, while the remainder was nearly equally distributed between Whites and Puerto Ricans. It should be mentioned that these migrant

TABLE 3

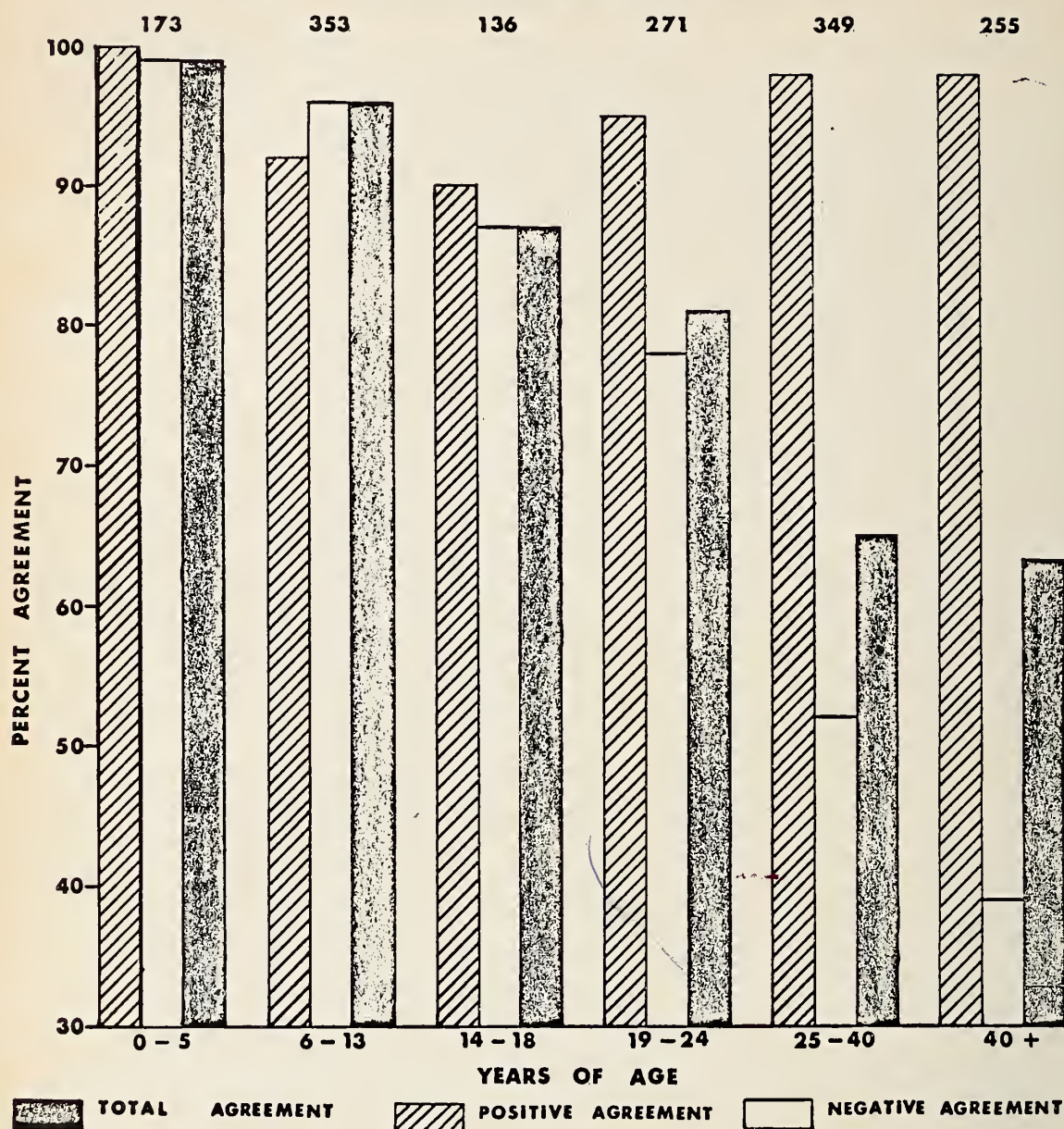
Between the PPD-S and the Tuberculin Tine Tests

Tine	PPD-S		Total
	+	-	
+	263	293	556
-	8	973	981
Total	271	1266	1537

Sensitivity of the Tine Test = 97.0%
 Specificity of the Tine Test = 76.7%
 Correlation Coefficient r = 0.586

TABLE 4

Comparison of the PPD-S and the Tine Test by age



workers and their families represent a normal, generally healthy, population group, since most of them received a screening health examination either in the states of Florida or Georgia prior to their coming into Delaware.

In Table 1 is shown a comparison in 1,537 subjects of the three skin tests, by per cent, of the positive and negative reactors by our three

readers. Throughout this study, induration of 5 mm and above was considered + for the Tine test. It is clear that the Tine test gave more than twice as many positive reactions than did the standard PPD-S (38.5% as against 18.7%). Of additional interest was the fact that a high percentage (over 20%) of this population reacted positively to PPD-G.

Since one of the major questions in this study was whether there was significant reader variation among our three medical students in the determination of a positive or negative reaction, a chi-square analysis was done. It showed that there was no significant difference among readers for either the PPD-S or the Tine reactions. However, there was significant difference for the PPD-G reactions among the three readers. Interestingly, this was consistent with the impressions obtained this summer, since the remark was frequently made among the readers that the PPD-G reactions gave more difficult reactions to measure because the boundaries of the skin reaction appeared less limiting.

Table 2 shows a comparison of the matched PPD-S and Tine tests in 1,537 individuals. The upper table considers not only the positive and negative agreements but also the disagreements, that is, where the PPD-S was positive and the Tine negative (+ -) or where the PPD-S was negative and the Tine positive (- +). It can be seen that when one compares the two tests, there was an 80.4% agreement, that is to say, between those that react negatively and those that react positively. The per cent disagreement was 19.6%.

Using this same population, and considering a Tine test positive at 10 mm rather than 2 mm, as is currently being done in a number of health clinics throughout the country, the per cent of agreement attains the 95% level and the per cent of disagreement only 4.1. This is depicted in the lower portion of this same Table.

In Table 3 you find the data obtained in the matched tests has been arranged in the form of a four-fold table. From this table the sensitivity and specificity of the Tine test can be obtained. Sensitivity is herein defined as the number of individuals positive to both tests 263 divided by the number of individuals positive to the PPD-S 271. This results in a sensitivity of 97%. Similarly, specificity is herein defined as the number of individuals negative to both tests 973 divided by the number of individuals negative to PPD-S 1,266.

This results in a specificity of 76.9%. It is clear, then, that although the sensitivity of this test is rather high, the specificity is relatively low. In order to get some measure of correlation between the two tests with respect to the agreements as well as disagreement described, the correlation coefficient was calculated from this four-fold table. The value of $r = 0.586$ indicates that the association is not of a very significant order of magnitude. In other words, the agreement among positive reactors is high, while the agreement among the negative reactors is low.

This point is emphasized again in Table 4 which shows a comparison of PPD-S and the Tine test by age. As can be noted, the percent of positive agreement between the tuberculin Tine test and 5 TU of PPD-S by the Mantoux was similar for each of the age groups—above the 90% level. However, the negative agreement ranged from a high of 99% to a low 39%, and this occurred in a step-wise manner.

From these data, and particularly with respect to this special population studied, it would appear, therefore, that with an increase in age, individuals judged as having a negative test with PPD-S would more probably be judged as having a positive test with the Tine—emphasizing again that which was noted in the beginning of this report, namely, that in this particular population group there were more than twice as many reactors to the Tine test than with the Mantoux test using standard PPD-S.

In summary, a cooperative comparative study of the Mantoux and Tine tests in a migrant population in Delaware was undertaken using protocol for the study of comparative skin testing techniques as designed by the *Ad Hoc* Committee of the American Thoracic Society. The per cent of positive Tine reactors (2 mm or more of duration) was found to be more than twice that of the positive PPD-S reactors (5 mm or more of induration). Of interest was the finding that over 20% of the itinerants reacted positively to PPD-G. A comparison of the positive Tine re-

Continued on Page 276

ASPECTS OF MENTAL RETARDATION

Mental retardation is presently explained as a condition first diagnosed during the development period, and characterized by subnormal intellectual functioning and impaired adaptive behavior. Prevalence of the condition today is an estimate derived from level of intellectual functioning and societal standards of behavior. Terminology in the field is confused because of changing concepts among many disciplines concerned with the problem. Aspects of terminology, classification and prevalence as a function of concepts are discussed. Recent actions taken on a national and state level to attack the problem in a coordinated and efficient manner are reviewed.

MALVIN GELOF, Ph.D.

In recent years the term Mental Retardation has become more and more familiar and the problem it represents increasingly prominent. Not quite two decades ago professionals were bitterly complaining that very little progress could be noted in the field. At present the magnitude and ubiquity of the problem are being widely publicized; money is available for almost any worthwhile endeavor. Five and one half to six million people are said to be retarded in this country out of a population of about two hundred million — approximately 3%. One hundred twenty-six thousand children are said to be born every year who will have mental retardation.¹ Many programs are in progress and others are being inaugurated. The future will see realized even more daring plans aimed specifically toward prevention, early detection and improved management of mental retardation.

Among the many stimuli for this accelerated activity on federal, state and local levels was the conviction by parents, and others intimately affected by the problems of mental re-

tardation that in a democratic society as complex as ours organized effort increases immeasurably the probability of community action, political and otherwise. The National Association for Retarded Children was the outgrowth of this interest. Receptivity to organized pressures is consistent with a philosophy of community responsibility in a mature and affluent society.

This article will review terminology, prevalence, and classification and will touch on factors which are causing confusion because of changing concepts regarding mental retardation. Additionally, the program for Mental Retardation in Delaware will be reviewed and the contributions of the State Board of Health summarized.

Definition and Terminology

Mental retardation is a comparatively new generic term for a condition whose sine qua non is intellectual subnormality. In American terminology it was preceded by the term *mental deficiency*, whose antecedent was *feeble-mindedness*. Although the term *feeble-mindedness* — with the connotation of a weak

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TABLE I

The Two Main Groups of the Mentally Subnormal Who Require Hospital Care

Degree of defect	Severe	Mild
Incidence of group in population	Uncommon: $\frac{1}{4}$ per cent	Common: 2 per cent
Proportion of group in hospital	Many: 25 per cent	Few: 3 per cent
Sex incidence	Males predominate	Females predominate
Psychological classification	Low grade, imbecile or idiot (modal I.Q. about 17)	High grade simpleton moron, feeble-minded (modal I.Q. about 57)
Predominant medical classification	Pathological, clinical, associated with physical malformations	Physiological, acclinical, residual, associated with behavior disorders
Mental capacity in absence of disease	Normal	Subcultural
Physical measurements	Means below normal, increased variabilities	Means and variabilities within normal range
Biological classification	Non-fertile	Fertility usually normal
Traditional obsolete view on causation	Environmental, secondary, exogenous, extrinsic	Hereditary, primary, endogenous, intrinsic
Status of relatives	Parents rarely defective; brothers and sisters occasionally defective and sharply distinguished from normals	Parents, brothers and sisters rather frequently defective, but not sharply distinguished from normals
Typical hereditary causes	Rare specific genes; autosomal aberrations	Common genes: Multiple additive genes: sex chromosomal aberrations
Typical environmental causes	Pre-natal maternal influences: cerebral disease or injury in very early life	Deprivation: cerebral disease or injury in childhood: antisocial environment
Treatment.	Elementary training, nursing, correction of biochemical errors, cerebral surgery	Special education, socialization, physical training, psychotherapy

mind — has largely disappeared, mental deficiency has not. The American Association on Mental Deficiency (AAMD) is the inter-disciplinary organization of professionals with six sections titled Administration, Education, Medicine, Psychology, Social Work and General. In 1933 the Association's descriptive name was changed from feeble-minded to mental deficiency. At its 1966 convention a proposal to change the name from AAMD to American Association for Mental Retardation was defeated. In its latest manual on terminology and classification the AAMD states: "Mental retardation refers to subaverage general intellectual functioning which ori-

ginates during the developmental period and is associated with impairment in adaptive behavior."² The term mental retardation "... incorporates meanings that have been associated historically with such concepts as amentia, feeble-mindedness, mental deficiency, mental subnormality, idiocy, imbecility and moronity, etc."² It was felt by some that although deficiency was not an appropriate term, retardation was an imperfect replacement. However the definition is spelled out in order to lead to operational assessments and to reflect changing concepts of the group.

The term *deficiency* has the connotation that something is missing, something is left

out. The term *defective* has the connotation that something is injured or not working properly. The term *retardation* has the connotation of a delay, or something external impeding progress. The latter term, therefore, has the desirable aspect of suggesting amelioration is possible if only roadblocks could be removed. Another generic term, *mentally subnormal*, has been advocated by the World Health Organization⁸ and is now the legal term in Great Britain for the group identified by lower than average cognitive ability. Subnormality, an accurate descriptive term, is probably resisted because it, too, may tend to lead to stereotyping the retardate. The more recent terms like the *culturally disadvantaged*, *deprived* or *under-stimulated*, although not precisely defined, seem to include educationally backward children whose intelligence may vary from above normal to mild mental retardation. These terms focus on the socio-cultural environmental factors which contribute to the incidence of the condition.

It can be argued that the group which is intellectually subnormal is composed of those who are mentally deficient and others who are mentally defective, and that a member of either group might be mentally retarded. These three conditions might be found in any combination. Theoretically, a child might be mentally deficient, i.e., at the low end of the normal curve in intelligence, mentally defective due to some disease or condition associated with encephalopathy and retarded because of cultural and/or emotional deprivation, or because of a sensori-motor handicap.

Prevalence

Estimates of mentally retarded, are often freely offered either without sufficient evidence or without adequate standards for comparison. However, if the assumption of the normal distribution of intelligence is accepted then approximately three percent of the population would have an IQ of less than 72 measured by an instrument with a mean of 100, and a standard deviation of 15, such as a Wechsler Scale. The points of demarcation are slightly lower on the Stanford-Binet Intelligence Scale, Form L-M, which has a standard deviation of

16. These 3% would be assumed to be for the most part normal healthy people who are by chance (assuming random selection) less well endowed with multiple genetic determinants of that mental capacity which evidences itself in intelligent behavior. We can make a reasonable assumption that although intellectually deficient, they are not necessarily otherwise physically affected. In these milder cases ". . . social adjustment is decisive in determining whether or not the patient is to be classified as intellectually subnormal."³

If this assumption of the normal distribution of intelligence were completely valid, then according to my calculation we might expect 22.3 persons per 1,000 to be mildly intellectually subnormal (51-72 IQ). The President's Panel¹ estimated 26 per 1,000. Forty-five hundredths (.45) persons per 1,000 would be in the 35 to 50 IQ range (-3.33 to -4.33 standard deviations). Here the estimate of the actual number by the President's Panel is 3 per 1,000 — an estimate of actuality six times the expectancy. Likewise the expectancy for under 35 IQ is .02 persons per 1,000; the estimate is 1 per 1,000, a figure fifty times greater. It is clearly evident that if all "normal" neonates below 35 in IQ survived, they would number 4,000 in a population of 200,000,000. The President's Panel estimates there are 60,000 to 90,000. Likewise we should expect a population of 90,000 between 35 to 50 IQ. The President's Panel estimates between 300,000 to 350,000. The President's Panel estimates approximately 5,000,000 retardates between 50 and 70 IQ. The normal expectation would be less than 4,500,000—at least 500,000 more persons are estimated in the 50-70 IQ range than is expected. It is clear that at every level of intellectual subnormality starting at about two standard deviations below the mean, there is an excess of estimate over expectation. This excess may be hypothesized to be a rough estimate of the "defectives" among the "deficient".

We have been grading retardation into three degrees according to measured intelligence using a scale with a mean IQ of 100, and a standard deviation of 15 points. Fifty to 70 IQ can be called high grade or mild retarda-

tion, 35 to 50, middle grade or moderate retardation, and under 35, low grade or severe retardation. The assumption is that roughly the excess of estimate over expectation are mentally defective, pathological, brain damaged, etc. — in American terminology — mentally retarded associated with diseases and conditions affecting the brain. These figures are far from precise because they do not take into account all the variables which affect the prevalence. A tendency toward early deaths in the more severely retarded would affect the ratio. However Penrose³ who uses the older term, states: "There is no doubt that a very large proportion of idiots (severe and/or profound retardation) and imbeciles (moderate retardation) are correctly described as "pathological" in the ordinary sense of being diseased." For the high grade retardates Penrose also points out, "For the feeble-minded (in Great Britain, a term applied to the mild level of retardation only) the position is different and, on the basis of intelligence tests alone, the great majority might be regarded as members of the normal population." Table I may help to clarify this discussion.³

Criteria

Attitudes towards the retardate have undergone slow but dramatic changes. In pre-Christian western civilization anomalous neonates, legally the responsibility of the family, could be allowed to die at the discretion of the parent. The retarded was regarded as sub-human. First came recognition of his right to live because he had a human body. John Locke differentiated between the mentally subnormal and the mentally ill. Then came recognition of his ability to think and, finally our era has recognized that he has all the elements of personality; he has feelings and fears and the development of his personality needs nurturing and guidance.

Also historically, the recognition of different levels of retardation has been a function of cultural development. First only the most severely retarded were recognized because of their obvious inability to function independently and to carry out their social responsibilities—even in a simple agricultural society. With the

advent of compulsory education a large new group of social incompetents were discovered because of their inability to meet the demands of the school. The basis of this social incompetence was recognized as intellectual incapacity. The first intelligence tests were devised to help locate the duller students. It became a dominant theory among some psychologists in the United States that once intelligence could be directly measured the social criterion could be dispensed with. But, however valuable intelligence tests are, at their best they are imperfect standards. For example, the Wechsler Intelligence Scale for Children (WISC) is considered extremely reliable. It is one of the two most widely used psychometric instruments of its type and is administered by a trained psychologist. Yet, it has a built in error expressed by its Standard Error of measurement (SEM). This statistic yields an estimate of the confidence one can have in the stability of the instrument. The SEM for the WISC varies for different ages. It is 4.25 IQ points at age 7.5, 3.36 points at age 10.5, and 3.68 points at age 13.5⁴. Therefore, if a child of seven and one half years of age, who is performing at his optimum, receives an IQ of 75 on an administration of the Wechsler Intelligence Scale by a competent psychologist, the most that could be said about his score is that the chances are two to one that his true score is between an IQ of 71 to 79. We can be fairly certain that his true score is between $\pm 3 \times 4.25$ points from his obtained score. This lack of refinement in measure is one reason why the intellectual assessment is at present considered necessary but not sufficient for a diagnosis of mental retardation. Other even less precise criteria related to intelligence are usually recommended.

The AAMD (American Association on Mental Deficiency) classification system considers mental retardation diagnosed by two criteria—measured intelligence and adaptive behavior. The latter refers to degree of personal independence and social responsibility. In childhood, adaptive behavior is measured by a scale like the Vineland Social Maturity Scale, which indicates developmental rate in areas of eating, dressing, toilet training, communication, play,

etc. During the school years, academic achievement also becomes a criterion, and in adult life vocational competency and social independence are the standard. In his carefully controlled study of the prevalence of mental retardation in Delaware,⁵ Jastak uses four criteria in an attempt to lessen the uncertainty surrounding the assessment of degree of mental retardation. Two are related to measured intelligence, and two to adaptive behavior. One implication of the difficulties of measurement is that the score must be used with caution and interpreted by a qualified professional. Another is to indicate the inadvisability of setting inflexible, precise cut-off points for administrative purposes, educationally, vocationally or otherwise.

"The mentally retarded are children and adults who, as a result of inadequately developed intelligence are significantly impaired in their ability to learn and to adapt to the demands of society."¹ "The more severe cases of mental retardation are likely to be associated with organic defects. However, in mild retardation which constitutes the great bulk of the cases, specific physical or neurological defects are usually not diagnosable with present biomedical techniques."¹

The New Terminology

As the economic base and social organization of society have evolved, the attitude toward the intellectually subnormal has evolved as reflected in the new terminology. The evolution is not yet complete. In addition, as the intellectual demands of a complex society have become more intense the standards for acceptable intellectual behavior have risen with geometric increase in the number of persons classified in need of help. Some of the multiplicity of causes of mental retardation are also becoming better understood. The higher the level of intelligence demanded, the greater the number of people in need of special attention who have no demonstrable disease related to the central nervous system. Thus, the number of mentally retarded is a function of the standards of behavior set by society, as well as a function of medical advances. The future will see more and more severely retarded born, and kept

alive through improved medical care. The future will also see in one form or another more and more mentally retarded whose etiology is social rather than physiological. Efforts to investigate the causes of low intellectual functioning without apparent encephalopathy have begun to reveal the enormous effect that a poor cultural and emotional environment can have on intellectual development. Eventually, these flaws in our society will be ameliorated, opportunity will be equalized and the level of intellectual functioning of the whole population will be raised including the lowest segment. There will probably still be the question of how complex the society will become—what will be the intellectual demands on its citizens and what will be done about the bottom segment—by whatever name they will be called in those days—and by whatever social criterion their prevalence is determined. Even though the bulk of the intellectually subnormal are not mentally defective, they are more vulnerable than the average to social failure. It is therefore the function of the society to be doubly certain that regardless of etiology, the mental retardate is able to devote his full energy to the problems of adaptation without being hampered by unnecessary sensori-motor or other impairments.

Classification Systems

To demonstrate confusion in terminology in the field and to show relationships more clearly, I am adding a table comparing several systems of classification according to degree of retardation as measured by IQ (Table II). We see that the classifications have from two to five categories. The most consistent point of reference is around the 50 IQ point. The category names are quite inconsistent. It might be noted that a physician who has been using the fourth edition of the A.P.A.¹⁵ manual or even the fifth edition of the AMA Standard Nomenclature⁶ might be confused by the terminology of other systems. What the A.P.A. calls severe grade has only partial correlation to what most of the other systems designate as severe. Its moderate degree has no correlation with the moderate of any other classification. The A.M.A. Handbook⁷ uses the same classification as does the president's panel.

TABLE II

Comparison of Systems of Classification of Mental Retardation Relating Degree of Retardation to Measured Intelligence*

Type ³	Authority & Year	Generic Term		Intelligence Quotients ^{1, 2}										
					90....	80....	70....	60....	50....	40....	30....	20....	10....	
I ³	American Assn. on Mental Deficiency (AAMD) (1959)	Mental retardation (m.r.)	Measured intelligence	85	Level -1; Borderline m.r.	70	Level -2; Mild m.r.	55	Level -3; Moderate m.r.	40	Level -4; Severe m.r.	25	Level -5; Profound m.r.	
		Adaptive ¹ behavior		84	Level -I; Mild m.r.	64	Level -II; Moderate m.r.	44	Level -III; Severe m.r.	24	Level -IV; Profound m.r.			
I M	President's Panel. (1962) American Medical Assn. (1965)	Mental retardation			71		Mildly retarded	51	Moderately retarded	36	Severely retarded	20	Profoundly retarded	
		Mental deficiency		85	Mildly mentally deficient	70	Moderately mentally deficient	50	Severely mentally deficient					
I	World Health Organization (WHO) (1954)	Mental subnormality			70		Mild subnormality	50	Moderate subnormality	20	Severe subnormality			
		Mental subnormality		90	Mental retardation			50	Mental deficiency					
E	Delaware State Educational (1957)	Mentally retarded Mentally handicapped			76		Educable mentally handicapped	55	Trainable mentally handicapped	30	Dependent children; Severely mentally handicapped	35	(Daytime Care Center - DMH)	
		Feeble-minded ⁴			75		Moron	50	Imbecile	25	Idiot			

1 The Adaptive Behavior dimension of the AAMD is the only classification in which the Social Quotient (SQ) is the criterion for grade.

2 Numbers inside the boxes are extensions of the IQ scale and show the limits of exclusion or inclusion.

3 Type is coded as follows: I—interdisciplinary; M—medical; E—educational.

4 Official classification until 1933.

*Adapted from Gelof (1963, pp. 299-301). Reprints of article comparing 23 systems of classification in detail may be obtained from author at Delaware State Board of Health, Dover.

However it should be pointed out that the fifth Standard Nomenclature makes no mention of the term mental retardation. The IQ referents however are no longer stated. (For some reason psychotic disorders, psychophysiological disorders, psychoneurotic disorders, personality disorders and transient stress disorders are listed under Mental Deficiency⁶ but this is possibly some kind of error. Apparently the term *Mental Disorders* has been omitted.)

Aside from variations in terminology, the 1952 APA classification was felt to cover too broad a spectrum of behavior in the lowest category—severe deficiency. A look at the Delaware educational classification shows that two entirely different groups of retardates in the latter are included in the one grouping of the former. The lowest educational group will need custodial care, but the trainable group may be trained for some degree of self care and vocational proficiency. The two-category classification used by both WHO⁸ and Sarason & Gladwin⁹ is the one classification which attempts specifically to combine degree of retardation with etiology.

Mental Retardation and Disease

The World Health Organization⁸ pointed out that the revolution in medical thinking about mental retardation was first, the shift in emphasis from pathological lesion to physiological and biological aspects in assessing degree and second, to an increasing recognition of the pedagogical and social aspects of the condition.

Tarjan in the AMA, Handbook⁷ states that eventually "Less than average neuron count, quantitative or qualitative deficiency in synaptic connections, or biochemical deviations interfering with the transmission of the impulse could explain mild retardation on a neuro-anatomical, neuro-physiological, or neurochemical basis . . . It is imperative, however, to recognize the functional and adaptational nature of the syndrome of mental retardation."

The president's panel makes clear that mental retardation is not to be considered a disease but a condition, (Joseph P. Kennedy Foundation, 1966).¹⁶ Even the president's panel how-

ever, states that the common characteristic in mental retardation is "inadequately developed intelligence."¹ The AMA Handbook¹ goes a little further and defines the common characteristic as "significant impairments in intellectual functioning and in the social adaptation of the individual."¹ Later on the Handbook states that mental retardation is considered to be "only one of the handicapping chronic diseases and again "Many retarded children are handicapped socially, though the handicap is not necessarily concomitant to the disease."

The different points of view show almost a continuum of thinking about mental retardation. At one extreme it may still be thought of as a disease. On the other hand, it may be considered in all cases not as a disease but as a consequence of a damaged brain. Or, it may be considered to be a function of a brain which is not necessarily diseased but impaired due to social and other conditions which have not allowed the brain to develop. The full explanation is, I think, that the intellectual functioning is sub-normal, and is reflected in lowered social functioning. We cannot measure either criterion precisely so we use a double criteria in some variation.^{2,5} The intellectual subnormality is possibly impairment but not necessarily so. The impairment may be due to biological, sociocultural or psychological factors.¹ However assuming that medically we eliminate all causes which result in brain damage: accidents, poisons, diseases to the mother during pregnancy, etc., and even could suppress disgenic elements, we might then, to a great extent, have lowered or even done away with severe mental retardation. Assume that we could then improve cultural and emotional environment to such an extent that every citizen becomes fully actualized. If we accept the assumption of normal distribution of intelligence we will still have some citizens who will be below the mean and may not have the capacity to meet the demands of the civilization. Even though they are healthy and not impaired in any way mentally or physically they are impaired in adaptive behavior because of their intellectual subnormality. This subnormality may be determined on a statistical basis or on the basis of a fixed standard,

i.e., either the lowest segment of the population or the minimum level of intellectual behavior demanded by the culture's complexity. Today both factors are considered but not spelled out because not enough is known to do so.

Recent Programs

Mental retardation services have been developing rapidly in Delaware as they have elsewhere. In some respects the achievements in the first state have been a model for the nation.¹⁰ However there is now a ferment to reach the dual goals of prevention and provision of a continuum of services vertically and horizontally. Services extend from conception to death¹ and from care in the home to care in a comprehensive residential facility. These aims have been given impetus because of moral justification and because of the realization that the undeveloped potential of the retardate may represent a greater loss to society than the cost for his habilitation. The positive result of adequate programming is a self respecting individual who is happy to participate and contribute to his community. The experience gained in developing programs for this group of handicapped citizens may be applied to other groups. For example, one can sense similarities between the problems of the aged and those of the retardate. Also, in studying the learning characteristics of the slow learner, immeasurable knowledge about behavior in general may result. The Binet intelligence tests were developed over half a century ago to help the Paris school system identify slow learners.

The Role of State Agencies

During the past decade and a half many of the state's agencies, public and private, have shared in the effort to provide increased and improved service for the retarded. Special educational and vocational training programs, modernizing of residential facilities and services, more inclusive health services illustrate this movement. In 1961 President Kennedy acutely aware of the problem of retardation, appointed an interdisciplinary panel of experts to prepare a national plan to combat mental

retardation. A final report was issued in October, 1962. It was hailed as "... a most significant document reflecting in its 95 specific recommendations breadth of vision, depth of insight and closeness to reality. For the first time in history it provides for the people of the United States a comprehensive blueprint for national action in mental retardation."¹¹ The report's recommendations are in eight sections: Research and Scientific Man Power; Prevention; Clinical and Social Services; Education; Vocational Rehabilitation and Training; Residential Care; The Law and the Mentally Retarded; Public Awareness. Nisonger points out that public concern with mental retardation until the last two decades has been focused on institutional care yet 96% of the retardates live in the community. The plan stresses comprehensive program planning in the community to improve and make more effective the services which had been introduced piecemeal and unrelatedly. In 1963 congress responded with major new laws. Among them was one making federal funds available to the states to help pay for developing comprehensive state plans to combat mental retardation. The Delaware project was assigned to the Commission on Children and Youth and was approved on July 7, 1964 by the U.S. Department of Health, Education, and Welfare. Many prominent people from public and private agencies assisted on the Planning Committee and Advisory Panel. A staff was appointed and the report issued on December 31, 1965.¹² The format of the report is generally similar to that of the President's Panel although the section subheads are somewhat altered to stress the needs of the state. Generally, a comprehensive plan of desired organization of services is presented for an area such as Residential Care or Research. The services presently available are next outlined and finally a series of recommendations to fill the gap is made.

On April 2, 1966, a Governors Conference on Mental Retardation was held in Dover to discuss the recommendations of the plan. About 300 people attended the full day session. Half the day was devoted to orientation to the report's contents and half of the day to

discussion and recommendations. This second set of recommendations has now been published.¹⁵

Since planning must be followed by action the federal government has made available further funds to states to establish interdepartmental bodies to coordinate and implement planning. Following the recommendations of the Delaware report Governor Terry appointed an Interagency Committee on Mental Retardation. It consisted of heads of departments with a major concern in mental retardation: Children and Youth, Education, Employment, Health, Mental Health and Welfare.

Dr. Lieberman, Commissioner, Department of Mental Health, has been serving as chairman. An advisory committee under the chairmanship of Dr. Henry Stroud of the Child Diagnostic and Development Center in Wilmington has also been selected. Delaware's implementation project has been approved by the federal government.

One of the first major tasks of the Interagency Committee was to find an administrator of stature and vigor to be coordinator for the work of implementation. As of August 1, 1966 the coordinator has been on the job with headquarters in Dover. He is Marlin Roll, Ph.D., a psychologist and educator with broad experience in the field of administration of projects related to mental retardation on a local and state level.

Lists of services for mentally retarded in the state are available from the Delaware Association for Retarded Children,⁷ Community Services Council of Delaware, Inc.¹⁸ as well as from Division of Crippled Children Services of the Board of Health.¹⁹

The Board of Health is critically involved in services to the retarded in areas of prevention, clinical and social services, and public awareness. Because of its broad responsibilities for community health it cooperates with other agencies to fill needs as they occur whenever feasible. New services to meet new needs are continually being anticipated and developed. Cooperation in research is available.

Through its Maternal and Child Health Clinics prevention of mental retardation and early case findings are facilitated. Increased usage of facilities should be encouraged.

Counseling and home care services for the family of the retardate is a function of the Public Health Nursing Service. Other services of this nature are available through the Crippled Children Services, Nutrition Services and the Psychological Services. Preschool children are evaluated psychologically, sensori-motor difficulties are diagnosed and treated and counselling is provided to parents in order that the child be best able to meet the demands of the educational and social environment. These services are not limited to retarded children. The Board of Health is also providing dental services to retardates to the limits of its financial capabilities.

The mental retardation program of the Board of Health includes psychological services for preschool children on referral from the physician. Assistance on problems concerning these is available to the physician.

Funds for construction of facilities for mental retardates is made available to appropriate agencies by the Board of Health.

Biochemical analysis aimed toward early detection of errors in metabolism have been going on for three years in a comprehensive program of testing for PKU. Explorations are being made to determine the wisdom of extending this screening to other errors of metabolism and biochemistry.

The State Board of Health is only one of the many agencies providing services for the retarded population. The coordination of activities should have a decided impact in increasing their effectiveness.

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THE VACCINATION ASSISTANCE ACT

- Is there any longer a valid reason for a child to suffer from diphtheria, pertussis, tetanus, poliomyelitis or measles when we have the power to prevent these diseases?

EDWARD F. GLIWA, M.D.
HAROLD J. HOROHO

The Vaccination Assistance Act, as originally conceived, emphasized the necessity for the raising of immunization levels of the general population and specifically of the pre-school age child. The Act called for the supplementation of ongoing state and local programs through the assistance of the Public Health Service which would furnish personnel and financial assistance. The specific diseases upon which the program focuses its attention are diphtheria, pertussis, tetanus, poliomyelitis, and, as of August 1965, measles. The means of achieving these goals are multiple, and the local areas decide exactly what steps will be taken to implement them.

Over the past few years, patterns of action have emerged; and each project has left its distinctive mark on the system it has developed. But, basically, they can all be broken down to one idea—the stimulation of interest in immunization among the public and the motivation of the public to complete the necessary action. The substantive form these operations take are: 1) a publicity program educationally orientated which has as its goal the heightening of public awareness in the area of immunization, 2) an Infant Maintenance Program directed to the parents of newborn infants which would emphasize early contact with the family physician, 3) an Antigen Cer-

tification Program designed to reduce the cost of immunization by making free vaccine available to physicians and clinics, 4) periodic surveys designed to measure the levels of immunity and to pinpoint the specific geographic areas and socio-economic sectors of importance, and 5) finally, where the public, the Medical Society and the State Board of Health deem it necessary, mass community immunization programs will be conducted.

In Delaware the first approach was made in the area of measles. Based on this state's and surrounding states' reports, it was indicated that we faced an imminent outbreak of measles on a widespread scale. Further, from available records it was ascertained that a large portion of the population under eight years of age remained unprotected. In view of this, a school program of measles immunization was carried out. State Board of Health personnel, supplemented by trained technicians from New Jersey, New York and Pennsylvania, immunized over 8,000 first, second and kindergarten grade children by jet injector guns and syringes.

Following the successful completion of the school program, a mass community program was initiated. The State Board of Health with the aid of the Medical Society, Pharmaceutical Society, Red Cross, National Foundation and other similar community organizations attempted to immunize the remaining suscep-

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tibles of pre-school age on what amounts to a "crash basis". The firm of Evans and Dill was hired to coordinate the public relations segment of the program, and the Public Health Service provided personnel and vaccine.

The recruitment of personnel and facilities for the 34 clinic sites was, with few exceptions, one of the easier aspects of the program. The cooperation of the community organizations and the major news media was excellent. The publicity campaign was intensive, and the theme centered around the cartoon character "Dennis the Menace". In utilizing "Dennis", we were fortunate in that the symbol already had public acceptance, and further it fitted readily into the theme of protection for young children.

Even with the above-mentioned plus factors, the campaign was faced with two fairly insurmountable problems which retarded its success. First, the time element itself limited the program's ability to "sell" the message to the public; and, secondly, the message itself that measles can be a dangerous disease with widespread complications was met by general public apathy. Measles, unlike poliomyelitis, is not a "glamorous" disease. One does not readily see the full implications of it. It was found that for the most part the public still considered it a minor, childhood disease. Because of this, a constant stream of energy had to be expended on explaining not only to the public but to the news media a complicated and more or less sophisticated story.

In spite of the natural difficulties encountered in a project of this size, the two-day clinics went comparatively smoothly; and the final tabulation showed more than 10,000 children had received the vaccine. Though this figure was below the original goal, when coupled with the 8,000 school immunizations it indicates a significant step has been made in the elimination of measles as a major communicable disease.

The succeeding months will see steps taken to initiate the other aspects of the project. Under consideration is the inaugurating of the Birth Certificate Maintenance Program which will employ the use of a wallet-size immunization record card. The card would carry not only the completed series of inoculations received but emergency medical information as well. Further, preparation is being made to set up a system for the dispensing of free vaccine (DPT, oral poliomyelitis, measles and smallpox) to physicians upon request. The only requirement in this program is that no charge may be made for the vaccine, but a charge can be made for the administration of the vaccine.

Naturally, it is contemplated that all these actions will be discussed and planned with those groups whose field of competence they touch. It is our hope that the Vaccination Assistance Act will be fully utilized to achieve the maximum benefit for the citizens of Delaware.

A COMPARISON OF THE MANTOUX AND TINE TESTS IN DELAWARE MIGRANT WORKERS

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actors with the positive PPD-S reactors gave an agreement of 97%. However, the agreement among negative reactors was only 77%. The disparity in the comparability of the negative reactions between the two tests increases directly with age. In nearly 20% of the cases in which positive Tine reactions were observed, the concomitant PPD-S reactions were

negative.

Finally, not to be underestimated in a cooperative study of this nature is the active role that the State Health Department and the Tuberculosis and Health Societies can play in providing not only positive direction and services for their existing tuberculosis detection programs, but also in providing epidemiologic opportunities and experiences which result in control programs of greater depth and benefit.

MEDICARE HIGHLIGHTS

- In a brief review of the Medicare program the position of the physician as a focal point is emphasized.

HARRY F. CAMPER, B.A.

The State Board of Health has entered into an agreement with the Secretary of the Department of Health, Education, and Welfare to act as the State agency for administering Title XVIII of Public Law 89-97 (Medicare) here in Delaware. In this role there is a basic three point program involving: 1. Certification of facilities which will provide service to the beneficiaries of the Health Insurance provided by the Act; 2. Consultation with any potential provider to assist in meeting the requirements for certification; 3. Assisting in coordination of health resources in the community to maximize service and quality medical care.

There is a three way administrative structure for the Medicare program. In addition to the Social Security Administration and the State agency, fiscal intermediaries are established by selection of the Secretary of the Department of Health, Education, and Welfare. Under Part A the coverage is oriented to inpatient hospital services. The law defines a provider of service as either a hospital, extended care facility, or home health agency. Any certified provider of service may make a choice for the fiscal intermediary. In Delaware the hospitals and home health agencies have designated the Blue Cross and Blue Shield Group. They also service as the carrier designated by the Secretary to make payments for the services covered under the voluntary Part B of Title XVIII. This makes for a simplification of the fiscal activities where they are centered around a single organization.

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The key figure in making the program function is the physician. The hospital, extended care, and home health services are all keyed to medical necessity. Some of the problems to be faced in this program stem from the need to develop an interrelationship between the community based hospitals and both non profit and proprietary extended care facilities. Best utilization of these facilities and their services will be reviewed on a regular basis. Although the utilization review should have a cross section of representation of the professions involved, the mandatory representation is limited to two physicians.

In establishing conditions for participation for various providers of service requiring certification, the program assures that quality medical care will be provided the beneficiaries of the health insurance. In addition to the 65 year olds covered under Title XVIII, a great many more are covered under the terms of Title XIX. Included in this potential coverage are families with dependent children, aged, blind, and permanently and totally disabled. The same goals for quality of medical care are expected for Title XIX.

The foregoing highlights the health insurance program as related to the stated providers of service. The Act provides this service for nearly all 65 year olds under Title XVIII and makes it possible for the States to provide a program under Title XIX for others. Voluntary coverage under Title XVIII Part B will have a more direct bearing on the physician.

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A HOSPITAL CHAPLAINCY VIEWED AS ANOTHER CLINICAL SERVICE

- The Chaplain is a specialist in family counseling and a healing art that makes its own contribution to patient care.

ROY E. RAYMOND, *Chaplain*

The Chaplaincy Service is strongly oriented towards the *personal relationship*. The question I want to raise in this paper is if it can be determined whether or not the personal relationship as provided by a program of Chaplaincy Service is an *essential part of total patient care*. The term "essential" can be misleading for it implies that a particular "healing art" cannot be dispensed with. Can any healing art, including all the medical arts, be viewed as essential and therefore as indispensable? The answer seems to be both *yes* and *no*; yes, because each healing art which makes a contribution is essential to the whole healing process; no, because there was a time when each healing art as we knew it today never existed and man still survived. The important question is — what is the contribution of this particular "healing art" and does its essential contribution warrant support as adjunctive to hospital care and medical treatment.

In establishing the Chaplaincy Service at Delaware Hospital, with its educational program, the community of Churches assumed that a "ministry of personal concern" is an essential need of the sick person, and it sought to meet this in the most effective way possible. Hence the program of Clinical Pastoral Education. This is the local expression of the special ministry to the sick which the Church

traditionally has engaged in and it is focused on "who" the sufferer is, what he is suffering with, and on his continuing identity and fulfillment as a man. This area of personal concern, especially for the hospitalized sick person, is one in which considerable room exists for adjunctive and auxilliary help to the medical profession. The continuing technological revolution which has caused the role of the Doctor to become more specialized and therefore more narrowly functional, the increased demands upon his time, the acute shortage of nursing personnel, the rapid increase in utilization of acute general hospital facilities, the continuing rapid increase in population, and etc., means that the personal aspect of a patient's needs have become more and more problematical. What perhaps has enabled this movement to continue with less than catastrophic results has been the addition of services such as Departments of Social Service, the development and expansion of the work of Volunteers, the addition of Chaplaincy Services, Departments of Clinical Psychology, and etc. However, to help fill the "gap" in this area was the basic motivation of the Council of Churches when it sponsored this particular Chaplaincy Program.

After this Program had become established, many of the doctors began to see it as another "clinical service". The referrals which came to the Chaplain's office from the Medical Staff were for the most part made on the basis of

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complications added to a person's physical illness by factors involving family relationships. In none of the referrals was there a clear basis for a psychiatric referral: either the patient was not sufficiently emotionally disturbed, or his emotional disturbance had no obvious psychiatric classification. The Chaplain here is thus seen by many of the doctors to be a "stop-gapper", but by implication is considered to be a specialist in family counseling. This is corroborated by the fact that several doctors directly from their offices have referred patients to the Chaplain for marriage counseling. Furthermore, the House Staff members have referred patients mainly on the basis of the needs of the family members who are standing by in a situation of extreme emergency. This suggests that a doctor is very sensitive to the non-medical needs of his patients and their family members, but he needs to protect himself from getting too personally involved with them!*

As to how far a doctor can become personally involved with his patients is a difficult question. The surgeon, for example, to protect both the patient and his own personal resources seems to find it necessary to keep some personal distance from the person he is surgically treating. As I learned in my own training experience, a young patient who requested a surgeon to become her pastor a few minutes before he was going to perform open-heart surgery on her was asking him to do the impossible. Furthermore, a doctor who is carrying a patient-load of fifty or sixty patients, cannot subject himself to the personal worries or family concerns of each of them. To do this would mean going far beyond his resources of

energy, of time, of sympathy, and of functional skill. This is not to dismiss the fact that a very serious problem exists in this area, for we know that the personal concerns of a patient influences his condition considerably. Therefore, a doctor cannot fence himself off from his patients and become the totally impersonal technician without violating his own integrity. As does the nurse who has the sensitivity but neither the time nor energy to become personally involved with her patients' worries and fears, so does the doctor need a resource person who can minister to his patient's personal situation with sensitivity, professional competence, who has the identity, the time, and who is available for referral, and whose presence has one effect of freeing the doctor from a sense of frustration and guilt over not being able to be all things to all of his patients.

From a religious perspective, all human suffering, including illness and disease, has either a primary basis in *relationships*, or if only a secondary basis (such as in a natural disaster) there is in the patient's personal response a helpful or hindering element to his healing. These relationships of course not only involve family or friends, but also involve the patient's relationships with himself and with the "Ultimate Being" behind all things. No one suffers through an accident without bitterness and resentment, and no one suffers through an illness without a sense of shame, responsibility, anger or fear. These need to be focused on some Thing or some One. In a sense, then, a Chaplain is a specialist in family counseling, but also in relationships generally speaking. Add to this general fact, specialized training, skill and experience, and the Chaplain is seen to be a significant resource person and a strong ally to all the professions involved with the suffering, sickness, and the healing of the ill.

*By "gap" I mean an area in the health field in which a vacuum exists in that there is no *aggressive concerted effort* to deal with a patient totally and to consciously use the mode of the personal relationship to do this.

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DECLARATION OF HELSINKI

Recommendations Guiding Doctors in Clinical Research

The Judicial Council and the Board of Trustees of the AMA House of Delegates urge that the Declaration of Helsinki, already adopted by the World Medical Association, be endorsed by the House of Delegates as a guide to those who are engaged in Clinical medical investigation. The Judicial Council Report further indicates that the Declaration of Helsinki is in accord with the Principles of Medical Ethics of the American Medical Association. Publication in State Medical Journals was also requested.

It is the mission of the doctor to safeguard the health of the people. His knowledge and conscience are dedicated to the fulfillment of this mission. The Declaration of Geneva of the World Medical Association binds the doctor with the words: "The health of my patient will be my first consideration" and the International Code of Medical Ethics declares that "Any act or advice which could weaken physical or mental resistance of a human being may be used only in his interest." Because it is essential that the results of laboratory experiments be applied to human beings to further scientific knowledge and to help suffering humanity the World Medical Association has prepared the following recommendations as a guide to each doctor in clinical research. It must be stressed that the standards as drafted are only a guide to physicians all over the world. Doctors are not relieved from criminal civil and ethical responsibilities under the laws of their own countries.

In the field of clinical research a fundamental distinction must be recognized between clinical research in which the aim is essentially therapeutic for a patient, and the clinical research, the essential object of which is purely scientific and without therapeutic value to the person subjected to the research.

1. Basic Principles

1. Clinical research must conform to the moral and scientific principles that jus-

tify medical research and should be based on laboratory and animal experiments or other scientifically established facts.

2. Clinical research should be conducted only by scientifically qualified persons and under the supervision of a qualified medical man.
 3. Clinical research cannot legitimately be carried out unless the importance of the objective is in proportion to the inherent risk to the subject.
 4. Every clinical research project should be preceded by careful assessment of inherent risks in comparison to foreseeable benefits to the subject or to others.
 5. Special caution should be exercised by the doctor in performing clinical research in which the personality of the subject is liable to be altered by drugs or experimental procedure.
2. **Clinical Research Combined with Professional Care**
 1. In the treatment of the sick person, the doctor must be free to use a new therapeutic measure, if in his judgment it offers hope of saving life, re-establishing health, or alleviating suffering. If at

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THE RESPONSIBILITY OF THE FEDERAL GOVERNMENT IN MEDICAL EDUCATION

- "Neither the medical profession nor government, acting alone, could deliver the health services required . . . It is time we got off each other's backs . . ."

PAUL Q. PETERSON, M.D.
Assistant Surgeon General

The subject of the Federal government's role in medical education is extremely broad. When one adds the word responsibility to this subject it becomes complicated by modest conflicts and substantial differences of opinion. Let us briefly explore the role and responsibility of the Federal government in health and medical affairs so that we have an historical backdrop against which its responsibility in medical education may be considered in perspective. Ever since 1798, when Congress passed the Sick and Disabled Seamen's Act, to which the Public Health Service traces its beginning, the Federal government has had an organization which provided the nucleus for professional concern for the public health. Through the years, as public awareness of the benefits of health has expanded and as medicine's ability to serve human health need has become more exact, our people have placed health in an ever more important position in their value system. Indeed it is now evident that our country has expressed its agreement with that beautiful phrase by Emerson, "Give me health and a day and I will make the pomp of emperors ridiculous." It is also apparent that the public has placed its principal trust in the medical profession to achieve this goal for them. Let us not misinterpret this trust,

however, for it is shared—shared with the scientist, other health professionals and the agent of the people—government.

To date this has been a most fruitful partnership. It has brought programs that have achieved levels of infectious disease control unknown to any other generation or society. It has provided hospitals and other health facilities that are unexcelled by any other nation. It has brought a biomedical research program that promises the most sophisticated health care in the world's history. Indeed if the health of our country is examined and found wanting it cannot be ascribed to any unwillingness of the public to support health activities. At the local, the State, and Federal levels of government, authority for health programs is provided and funds to support programs are voted. Additionally, private expenditures are made so that today the health industry of this nation accounts for approximately 6% of the gross national product.

It is therefore self-evident that as we look at the Federal responsibility in medical education, it is with the recognition that our nation has declared health to be in the public interest, that our society considers health in the same category with other essentials of life and is willing to provide the fiscal support through all forms of funding, public and private, to insure the availability of health services.

Dr. Peterson is Associate Chief for Community Health Bureau of State Services, P.H.S.

Delivered at the Annual Meeting of the Medical Society of Delaware, Academy of Medicine, October 2, 1965.

Impact on Medical Teaching

Although local and State support for medical education goes back many years, Federal participation in the support of medical education really began during World War II with the support of medical research. The growth of these programs since World War II is well known to all of you. Most of this has been and continues to be in the form of grants for medical research, but there are other forms of support. These include training grants to strengthen instruction in specified fields such as specialized research training, cardiovascular disease, cancer, psychiatry, neurology, and public health. In addition, funds have been made available for the construction of research facilities, and there are very substantial programs to support general research training in medical schools. These include graduate student support as well as funds for teaching and the research carried out as part of the training program.

Although these activities are carried out for the specified purpose of medical research, it is recognized that they have a collateral impact on medical teaching per se. Let me hasten to add that some of the effects on education have caused concern among medical educators. This is especially the case where the research effort encroaches on faculty teaching time. However, it is generally recognized that the research program enriches the academic curriculum. This is such a widely accepted concept that it is doubtful if a school could maintain accreditation if it had no research program. It is also evident that the research training program is providing the principal pool from which medical schools are recruiting faculty to fill existing and newly created vacancies.

Another aspect of this problem that was gradually being defined during the early post-World War II period was the growing shortage of physicians in the United States. By the mid-1950's the evidence was unmistakable that we were heading for a decline in the physician-population ratio. The first report on these studies was made by the Public Health Service, and appeared in 1958 when Perrott

and Pennell published projections of physician manpower. In light of these findings the Surgeon General appointed a consultant group on medical education under the chairmanship of Frank Bane. The report of that group, "Physicians for a Growing America," published in 1959, made 19 recommendations to the Federal government, to foundations, professional organizations, medical educators, and civic groups. The core of the recommendations dealt with the need for Federal grant-in-aid programs to assist in the construction of professional schools and in the support of full-time professional students.

These recommendations were translated into legislative proposals by the PHS and were submitted to Congress with the endorsement of the Administration. The 88th Congress passed the "Health Professions Educational Assistance Act of 1963," which is substantially the legislation initially proposed.

This law authorized \$175 million over three fiscal years for matching grants to assist in the construction of new, remodeling and renovation of old, or the expansion of existing schools of medicine, dentistry, pharmacy, optometry, podiatry, nursing, osteopathy, and public health. The PHS had estimated the total need, but on the basis of experience to date we had underestimated the size of the problem. As of the end of April 1965, 82 applications had been received, of which 46 were medical. The total cost of the proposed construction in these projects is \$585 million with the Federal matching share \$299 million. This response, over 1/3 greater than had been predicted, represents a clear declaration by the public of its concern and desire that our nation should have a more adequate capability to serve the health needs of our people.

More specifically, as of April 1965, 44 projects had been approved and funded—17 medical schools, 10 dental, 3 public health, 11 nursing, 2 optometry, and 1 pharmacy. These projects represent a total cost of approximately \$182 million with the Federal share being \$92 million. The increased enrollment made possible will total 1570 students, of whom 540 are medical. In addition, there were 7 more

projects approved but not yet funded that will cost a total of \$18 million with the Federal share slightly over \$8 million. These will provide an additional 159 places in the enrollment capability of the schools concerned, of which 26 are medical. Therefore one year's experience has added over 1700 students to the teaching capacity of the professional schools of the United States when the construction is completed, and 570 of these are medical students.

This is an impressive achievement, but so that you may recognize fully the tenuous position in which American medicine finds itself today let us look more closely at what is happening. The total supply of physicians in the U.S.—including both M.D and D.O.—has only barely been keeping pace with population growth since 1950: the number of physicians per 100,000 population was 141.7 in 1950 and 141.4 in 1963. On the surface this appears to be reasonably adequate. But over the past ten years the number of foreign medical school graduates licensed to practice in this country has risen from less than 500 to 1600 a year. In 1963-64, graduates of foreign schools represented only slightly less than one out of every five new licentiates. This represents the equivalent of the graduating classes of 17 American medical schools.

Foreign Supply of Medical Manpower

I have said previously and repeat now that I doubt the wisdom of our country's dependence to this extent on the medical education system of foreign countries to supply the medical manpower required by our nation. It is therefore self-evident in my opinion that, enlightened and generous as our program is, it is not adequate to our needs and must be enlarged. Based on the present program an optimistic estimate of the number of medical graduates in 1975 is 9,185, or 1,558 more than the number of graduates in 1963. This figure assumes expansion of existing schools and the opening of at least 12 new schools by that date. This means that only if we continue to import foreign trained doctors at the present level of 1,600 a year may we expect to maintain our present ratio of doctors to population.

The other principal feature of this bill is the student loan program. This provides loans of up to \$2,000 per year for full-time students of medicine, osteopathy, dentistry, and optometry. Interest is charged at the "going Federal rate" which ranges between 4% and 4½%. The note falls due three years after full-time student status ends and the borrower has ten years in which to repay the loan.

A study of "How Medical Students Finance Their Education" was conducted during the academic year 1963-64 by the Association of American Medical Colleges, the American Association of Osteopathic Colleges, and the PHS. This showed that in general, medical students come from upper income families. Whereas 36% of all families in the U.S. had incomes of less than \$5,000/yr., only 15% of medical students came from such families. In fact, almost half of the students came from the families with incomes of \$10,000/yr. and over; and at the very top of the scale, 14% of medical students came from the 1% of families with incomes in excess of \$25,000/yr.

The average annual expense of medical students in all schools was \$3,577. Single medical students from families with relatively low incomes financed 35% of their medical education from their own earnings; for married students without children 57% of expenses were met by spouses' earnings, 17% by their own earnings. The remainder in both cases came from their families and from such scholarships and loans as might be available.

The experience of the PHS with the student loan program for the academic year 1964-65 is clear evidence of the need for a program aimed at meeting the financial requirements of professional students. Ninety-two schools of medicine and osteopathy participated in the program. Over 7,000 students—approximately 22% of the total enrollment—borrowed nearly \$6,500,000. Twenty-three percent of enrolled dental students borrowed slightly over \$2.9 million. The total number of borrowers as of January 1965 was 10,577, and the total amount borrowed by them was \$9,676,000.

On the basis of this experience the Public Health Service recommended that amendments be submitted to Congress that would extend the legislation to 1970, increase the funds available for construction, raise the ceiling on individual loans from \$2,000 to \$2,500, and authorize a program of academic improvement grants and a scholarship program. On September 1, 1965, the House of Representatives passed H.R. 3141 which essentially provides these legislative authorities. After the first year, schools of medicine, osteopathy, dentistry, and optometry would be eligible for a basic improvement grant of "\$25,000 plus the product obtained by multiplying \$500 by the number of full time students in such school." The grants during the first year would be one-half this amount. In addition these schools might participate in "Special Improvement Grants" on the basis of an application which is reviewed on merit and recommended by the Advisory Council.

The scholarship program makes funds available to each eligible school. These monies may be awarded by the school to needy students who meet their requirements for scholarship awards. The maximum any such student may receive in a year is \$2,500. The construction and loan programs of the existing law were extended essentially as at the present time except that the authorized budget ceilings are increased to meet the problem more adequately. Hearings on this bill have been held before the Subcommittee on Health of the Committee on Labor and Public Welfare of the Senate. Floor action on the bill has not yet been scheduled.

One other program, just started this year, was made possible when Congress appropri-

ated earmarked funds to be made available to medical institutions to improve and expand continuing education of the health professions. The need to greatly enlarge this program and make possible greater utilization of modern communications technology and more refined techniques of adult education has long been recognized. Now it will be possible for the government to join forces with the medical profession and its academic institutions to help meet the continuing educational requirements of the physician.

A great scientist is said to have remarked, "If I see further than other men, it is because I stand on the shoulders of giants." By combining our stature, I think that the partners in the medical world have now been able to perceive clearly the dimensions of our future need in medical education. Neither the medical profession nor government, acting alone, could possibly achieve the goals necessary to deliver the health services required by our society. Now, if I may somewhat facetiously twist the original metaphor, I think it is time we got off each other's backs and started marching forward shoulder to shoulder. Together the profession and the government have the strength and skills to achieve our common goals.

The "Responsibility of the Federal Government in Medical Education"? It has been substantial for many years, and it is expanding as unmet needs become apparent. The goals of medical education can only achieve full fruition when the medical profession and the principal health agency of the Federal government, the Public Health Service, work together in the common cause of meeting the health needs of our nation.

MEDICARE HIGHLIGHTS

Continued from Page 277

Direct services from the physician are covered by Part B. There are no provisions under Part A for physicians' services except those which are part of administrative duties in the providers' facilities.

With the program just getting started in the first stage, there are a number of problems

which will arise both from the legal aspects of the health insurance coverage and the normal administrative problems which are encumbent with such a vast program. As the first full year of experience is completed some of these complexities will be worked out. Any necessary modifications can be accommodated to provide more effective insurance coverage while maintaining a high standard of medical care.



The Physician and The Pharmacist

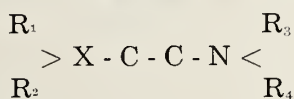
A monthly feature of the Delaware Pharmaceutical Society



ANTIHISTAMINES

For seasonal reasons we find antihistamines to be an active prescribed medicinal during the summer months. To insure proper utilization of this important group of products, the physician and pharmacist should have a working knowledge relating to the chemistry of the individual compounds. Often times a patient may not illustrate the usual response toward one compound and the practitioner is called upon to provide another product for symptomatic relief. By keeping in mind the general chemical categories, the physician may employ a compound within another group to greater advantage than by prescribing one from the same category. The following table will assist you in selection of antihistamine therapy: (examples of each group are also given, but do not represent all the compounds available).

Most of the active antihistamines may be represented by the general formula of:



Group I

Ethylenediamines: When X=nitrogen
Antazoline (Antistine) (mainly for ophthalmic utilization)
Methapyrilene (Histadyl)
Triplénamine (Pyribenzamine)

Group II

Amino alkyl ethers: When X=oxygen
Bromo-diphenhydramine (Ambodryl)
Diphenhydramine (Benadryl)
Carbinoxamine (Clistin)
Doxylamine (Decapryn)

Group III

Alkylamines: When X=carbon

Brompheniramine (Dimetane)
Chlorpheniramine (Chlor-Trimeton)
Dimethindene (Forhistal)
Triprolidine (Actidil)

Group IV

Piperazines: When X=carbon in conjunction with piperazine ring
Chlorcyclizine (Perazil)

Group V

Phenothiazines: When X=nitrogen as part of phenothiazine nucleus
Methidilazine (Tacaryl)
Promethazine (Phenergan)

Group VI

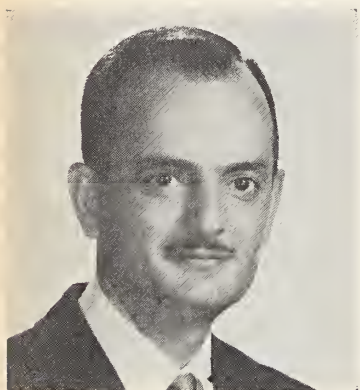
Miscellaneous: structure representing a departure from the above classification
Phenindamine (Thephorin)

The antihistamines produce a variety of undesirable effects. These are similar for all available agents except phenindamine. Although the incidence varies considerably ranging from less than seven to as high as eighty per cent. Sedation is the most common untoward reaction and is directly related to the dosage employed. In some cases the response may disappear after several days of therapy. Sedation may be largely eliminated by the judicious use of small amounts of central nervous stimulants.

There are a multitude of dosage forms available for each of the products manufactured: tablets, capsules, syrups, injections and sustained action products. For more specific data concerning dosage forms you can consult with the pharmacist who provides your office with pharmaceutical service.

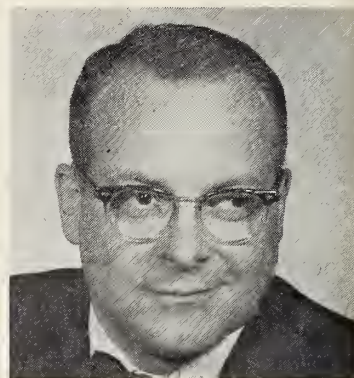
New Members

J. B. K. Smith, M.D., Glasgow University Medical School, '31, is a Scotsman, born in Foulshields. Delaware license: 1965. Specialty: Administration, Psychiatry; Office: Delaware State Hospital. Dr. Smith was Alaska's First Commissioner of Mental Health and is tagged "Alaska Smith" by his friends. His favorite hobby is boating.

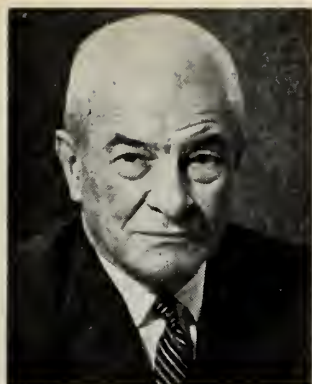


Ahmed S. Madani, M.D., University of Tehran School of Medicine, '54, is a native of Tehran, Iran. Delaware license: 1966; Specialty: Anesthesiology; Office: Memorial Division, Wilmington Medical Center. The Madanis like to go on camping trips and just returned from one to California, with their children, aged 7 and 2½. Dr. Madani also enjoys all kinds of carpentry work around the house.

Domenic Gabriel Iezzoni, M.D., Columbia University College of Physicians and Surgeons, '48, was born in Youngstown, Ohio and transferred from the Nassau County Medical Society, New York. He obtained his Delaware license in 1964. Specialty: Research; Office: duPont Company, Wilmington. Dr. Iezzoni has four daughters. He is interested in Medieval History and the study of Natural History.



Robert Dickerson, M.D., New York Medical College, '55, is a Wilmingtonian by birth and obtained his Delaware license in 1962. Specialty: Pathology; Office: Delaware Division, Wilmington Medical Center. Dr. Dickerson is a bachelor and likes traveling of any kind; he likes to be on the move.



President's Page

INDEPENDENCE OR BONDAGE

Years ago, in the bayou country of Louisiana, there was one island which was inhabited only by a herd of wild hogs. These hogs were ferocious; they foraged for their own food and were self sufficient. No one, human or other animal, had the temerity to set foot on their domain, knowing full well that they would instantly be attacked.

Then, one day, a venturesome individual did land on the island and set up an enclosure, at great risk. Shortly thereafter, this same individual regularly threw food into the enclosure. The wild hogs discovered the food inside the enclosure and not much time passed until they became fully dependent on the handouts. They lost their ferocious independence. They sat on their collective haunches and were fully dependent on the tid-bits thrown to them. This venturesome individual had a readymade supply of succulent pork for his taking.

On this same subject, there is a statement from an anonymous author, which I recently read. "The history of all democratic societies has been—from bondage to spiritual faith, from spiritual faith to courage, from courage to freedom, from freedom to abundance, from abundance to selfishness, from selfishness to apathy, from apathy to dependency, from dependency to bondage.

From the words of Phillips Brooks—"Do not pray for easy tasks, pray to be stronger men. Do not pray for tasks equal to your powers, pray for power equal to your tasks. Then the doing of your work shall be no miracle, but you yourself shall be the miracle."

Justice Louis D. Brandeis warned: "Experience teaches us to be most on our guard to protect liberty when the government's purposes are beneficent."

The above thoughts might be kept in mind when considering any type of governmental supervision, whether it be Federal, State, Medical Society or local hospital.

And now, after a truly educational year, a fond adieu.

A. M. Gekret



Delaware Academy of General Practice

INDUSTRIAL MEDICINE

The Committee on Education of the Delaware Academy of General Practice is devoting the October 29th Seminar to "Industrial Medicine." Education in this field of medicine is most timely, as the Committee on Occupational Health of the American Academy of General Practice reported that approximately 90% of all general practitioners are doing some degree of occupational medicine. It has been stressed that the private practitioners and those practicing full time in industry should work as a team, with free intercommunication, to bring the benefits of medicine to the total man in relationship to the community in which he lives and works. There can be a lot of good developed for the benefit of the employee and his family, as a result of a free exchange of medical knowledge and communication between the family physician and the industrial physician.

Some physicians are full-time in the larger industries, while others are necessarily part-time in the smaller industries, or assisting the full-time physician. Frequently the part-time industrial physician may serve the needs of medical service in one or more plants.

The first responsibility of the industrial physician is the medical interest of the employee: that is, competent and efficient care of the plant-incurred injuries and diseases and supervision of the environmental health of the employee. He is usually responsible for obtaining and supervising competent and efficient medical care for plant-incurred injuries and diseases in the outside medical facility and hospital for his patients.

In general, the doctor-patient relationship should be the same in the industrial medical practice as it is in private medical practice.

To this end there has been a very good relationship between the Delaware Industrial Medical Association and the Delaware Academy of General Practice. In fact, the membership of the Delaware A.G.P. in conjunction with the I.M.A. members residing in the state,

served as a nucleus to form a component chapter of the I.M.A. in Delaware in 1963. This same close relationship is inductive to the development of competent and efficient occupational health practices locally.

We hope to accomplish, in a small way, this same idea, as the Delaware I.M.A. has accepted the responsibility of conducting the program of the Delaware A.G.P. Seminar on Saturday, October 29th from 9 a.m. to 12:30 (noon), at the Delaware Academy of Medicine Building, Wilmington, Delaware, as follows:

Moderator

Jerome J. Bredall, M.D., Chrysler Corporation

Immediate Care of Trauma in Industry, Joseph A. Arminio, M.D., Industrial Care Center.

Industrial Psychiatry, Re: Absenteeism, Sanford G. Rogg, M.D., E. I. du Pont de Nemours and Company.

Alcoholism in Industry, Howard L. Reed, M.D., Hercules Powder Company; and H. Thomas McGuire, M.D.

Medico-Legal Implications of Industrial Medicine, Tom R. Hunt, L.L.B., Hercules Powder Company.

The medical profession and management, in general, are heartily invited to attend.

It is hoped that the next Industrial Medical Symposium will be conducted within the facilities of one of the local plants. In this atmosphere, we would be able to acquaint the employee's family physician and specialist, with the working environment. His physician will see the relationship of his patient's particular medical condition to the job function. His personal physician may see, first-hand, the numerous safety measures which are incorporated in the working environment for the protection and benefit of the employee's health and safety and to acquaint himself with the care received in the medical department.

Jerome J. Bredall, M.D.

Editorials

SPIN OFF AND SERENDIPITY

During the last two decades we have watched medical technology advance at an exponential rate. Concomitant with this advance and often because of it, equally complex changes have taken place in the practice of medicine. For years, we have been saying that from a practical standpoint, technology will outlive its usefulness because its mere complexity will obviate its effectiveness in everyday medicine. Some say that we have already reached that point and feel harassed if not awed by the possibility of being obligated for medical-legal reasons to subject our elderly excitable patients with chest pain to the rigors of an intensive care unit where they are enveloped in a morass of tubes, wires, alarm systems all under the uncomprising, cold eye of a monitoring television camera.

In another hospital, autoanalysers click out 10-16 chemical determinations on 1-2 cc of blood taken routinely on every patient admitted (Sodium, Potassium, Calcium, Chloride, Carbon Dioxide, SGOT, Alkaline Phosphates, Total Protein, Albumin, Bilirubin, BUN, Blood Sugar). The results are rapidly recorded on a ticker type machine at the appropriate nurse's station. Assembly line *Executive physicals* designed to examine or contemplate every conceivable measurable item, are fast becoming a reality. What is even more unsettling is that this production line medicine, in keeping with the jet age, is proving in some hands to be effective and, more often than not, being enthusiastically accepted by the patient.

But is it all good? Is it necessary? Isn't it expensive? What about the *Art of Medicine*? What about these frequently heard cries of distress from the bewildered practi-

tioner? The answers are probably simpler than the questions. In brief, some are and some are not and it is impossible to predict which technique will prove successful without giving each the test of time. For this is the essence of the scientific method.

There is little question that those scientific steps that stand up under the test of time are worthwhile. What about those that must be discarded? What about the waste and are these a total loss? Your editor suggests that they are not a total loss because from their very complexity the secondary knowledge gained as *spin off* is often worthwhile and occasionally of greater importance than the original project.

Cardiac surgery led to the development of hypothermic surgery which through cross fertilization has become almost the exclusive tool of the neurosurgeon. Because of their frequent use, simpler equipment has been developed and hypothermia blankets are commonplace in most hospitals and used for the treatments of hyperpyrexia of almost any cause. Indeed the intensive care that was found necessary for many post-op cardiac and neurosurgical patients has been the training ground for the nursing staff that now man our intensive care units. Oddly enough the population of the intensive care units has shifted in recent years to become almost 60% medical.

Cardiologists have made great strides in the understanding of arrhythmias as a dividend that has spun off the monitoring of patients with acute myocardial infarction. Through organ transplant, we have begun to understand much about immunology and immuno-

suppressive therapy that now can be used in a wide variety of unrelated diseases.

In essence then, the massive and rather wasteful efforts of the physicians and surgeons to treat a very small fraction of the total patient population who have rather rare and obscure problems has led to the knowledge and the methodology of how to treat the common problems.

It is *this* that makes the whole package not only bearable, but reasonable. It is because of both the primary and secondary benefits that the super-specialist is here to stay, not as an egg head who doesn't really

understand how to take care of people, but as a vital member of the medical team who must be understood and encouraged. Through serendipity alone he is bound to arrive at something that we all may use. The *Art of Medicine* is still a real thing and lies unchallenged. It is not so much in the methodical steps in which we have been trained to make a diagnosis as in the handling of the individual patient and treating him as an individual after the computers have had their opportunity to increase our knowledge of each patient that the *Art of Medicine* lies.

The rest is spin off and serendipity.

DECLARATION OF HELSINKI

Continued from Page 280

all possible, consistent with patient psychology, the doctor should obtain the patient's freely given consent after the patient has been given a full explanation. In case of legal incapacity, consent should also be procured from the legal guardian; in case of physical incapacity, the permission of the legal guardian replaces that of the patient.

2. The doctor can combine clinical research with professional care, the objective being the acquisition of new medical knowledge, only to the extent that clinical research is justified by its therapeutic value for the patient.

3. Non-Therapeutic Clinical Research

1. In the purely scientific application of clinical research carried out on a human being, it is the duty of the doctor to remain the protector of the life and health of that person on whom clinical research is being carried out.
2. The nature, the purpose and the risk of clinical research must be explained to the subject by the doctor.
3. Clinical research on a human being

cannot be undertaken without his free consent after he has been informed; if he is legally incompetent, the consent of the legal guardian should be procured.

- a. The subject of clinical research should be in such a mental, physical and legal state as to be able to exercise fully his power of choice.
- b. Consent should, as a rule, be obtained in writing. However, the responsibility for clinical research always remains with the research worker; it never falls on the subject even after consent is obtained.
4. The investigator must respect the right of each individual to safeguard his personal integrity, especially if the subject is in a dependent relationship to the investigator.
 - a. At any time during the course of clinical research the subject or his guardian should be free to withdraw permission for research to be continued. The investigator or the investigating team should discontinue the research if, in his or their judgment, it may, if continued, be harmful to the individual.

In Brief

Operation "Label Such"

If the physician "labels his drugs" he can expect the pharmacists to talk about it. The Delaware Pharmaceutical Society requests that physicians in the State be apprised of the adoption of the Resolution No. 13 as follows:

"Therefore, be it resolved that the Delaware Pharmaceutical Society endorse new guidelines to allow Pharmacists to discuss in general terms, the medication prescribed, when "Label such" appears as part of the physician's directions."

Diabetes Speaker

The Delaware Diabetes Association announces that on Tuesday, October 18, 1966 at 8:00 p.m. in the Auditorium of the Academy of Medicine, Dr. Rachmiel Levine, Professor and Chairman, Dept. of Medicine, New York Medical College will speak on the "Problems in the Diagnosis of Diabetes."

Speakers On "Doctor's House Call"

Speakers for October on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Oct. 4: Charles L. Reese, III, M.D., *Epilepsy*; Oct. 11: Harold P. Sortman, M.D., *Preventive Medicine*; Oct. 18: Alvin Weiner, M.D., *Glaucoma*; Oct. 25: Leonard Tucker, M.D., topic to be announced.

Mental Retardation Workshop

The workshop on Mental Retardation will be conducted at the Hospital for the Mentally Retarded at Georgetown, Delaware, November 7-11, 1966. It is intended for physicians, nursing personnel, and other personnel working directly with the mentally retarded and will focus on two areas: 1) Medical aspects of mental retardation, and 2) Operant conditioning in training the retarded. Registration is limited and applications may be obtained by writing the Superintendent of the Hospital for the Mentally Retarded, Rt. 1, Box 1000, Georgetown, Delaware 19947.

The Month In Washington

The Advisory Committee on Obstetrics and Gynecology to the FDA reported that in a nine-month study it could find "no adequate scientific data" that birth control pills are "unsafe for human use."

They stated, there are "possible theoretic risks" in the use of oral contraceptives. The committee recommended further, extensive tests to learn more about possible side-effects and to improve surveillance of the drugs.

The FDA accepted this proposal including discontinuance of time limitations on use of oral contraceptives. The agency would like to start studies on up to 50,000 women next year and eventually on to 500,000 women. The FDA said it would lift shortly its recommended limits on use of the pill. The agency has required that manufacturers state on their labels and advise physicians that the oral contraceptives should be used by individuals for no more than four years because of concern about the unknown long-term effect of the medications.

Out-Patient Services Committee Program

Other steps that FDA officials said would be taken include imposition of uniform labeling requirements on all types of oral contraceptives, elimination of product-by-product variations that have confused physicians and allowed companies to make different promotional claims, and restrictions of the use of the products for some medical purposes, such as prevention of abortion and treating lack of menstruation or painful menstruation.

"The oral contraceptives present society with problems unique in the history of human therapeutics," the committee added. "Never will so many people have taken such potent drugs voluntarily over such a protracted period for an objective other than for the control of diseases. They furnish almost completely effective contraception, for the first time available to the medically indigent, as well as the socially privileged. These factors render the usual standards for safety and surveillance inadequate.

Out-Patient Services Committee Program

The next four meetings of the Wilmington Medical Center's Committee for Out-Patient Services are listed below. The Committee meets weekly at 9:30 a.m., Executive Offices of the Wilmington Medical Center, Nurses' Residence, Delaware Division:

Date		Topic
October 5, 1966	23.	Use of Computers in Out-Patient Services and other Efficiency Aids
October 12, 1966	24.	Committee Discussion
October 19, 1966	25.	Committee Discussion
October 26, 1966		No Meeting

N.J. Academy Of Medicine

A course in Obstetrics and Gynecology has been announced by the Academy of Medicine of New Jersey. It will be held November 16-19, 1966, at St. Barnabas Medical Center, Livingston, N.J. Tuition will be \$20.00 per day or \$50.00 (including lunches and parking) for the entire 3½ days. Overnight accommodations will be arranged. AAGP credit has been applied for. Write: James Breen, M.D., Chairman, Section on Obstetrics and Gynecology, Bloomfield, N.J. 07003.

ACP Course

The American College of Physicians presents *Endocrine and Metabolic Disorders*, Nov. 7-11, 1966: Louria Auditorium, Jewish Hospital (Monday-Wednesday A.M.); Basic Science Building, State University Building, State University of New York, Downstate Medical Center, (Wednesday-P.M.-Friday).

ACP Course

The American College of Physicians presents *Progress in Gastroenterology-1966*, Nov. 28-Dec.2, at the University of Pennsylvania School of Medicine: Auditorium, The Annenberg School of Communications, 3620 Walnut Street, Philadelphia, Pennsylvania. Fees for either course: A.C.P. Members, \$60.00, Nonmembers, \$100.00. Send all registrations, requests for information and application blanks to: Executive Director, ACP, Edward C. Rosenow, Jr., M.D., 3200 Pine Street, Philadelphia, Pa. 19104.

Tumor Day Program

Physicians are invited to the Fifth Annual Tumor Day program on "Head and Neck Malignancies" which will be held at Misericordia Hospital, 54th St. and Cedar Ave., Phila., on Wednesday, Nov. 9, 1966, at 2:15 p.m. This is sponsored by the Misericordia Hospital's Tumor Committee and supported in part by a grant from Merck, Sharp and Dohme Educational Foundation.

CLINICAL NOTICES AND MEETINGS

- American Academy of Pediatrics** The 35th annual meeting of the Academy of Pediatrics will be held Oct. 22-27 in Chicago at the Palmer House. A diverse scientific program will feature 26 round table discussions, 11 seminars, and 164 technical and scientific exhibits. Subjects to be covered include growth hormone and disorders of growth, society's stake in responsible parenthood, clinical trial of live attenuated rubella virus vaccine, the unmet needs of children, and language development and disorders.
- AAP PG Courses** The American academy of Pediatrics has also scheduled five postgraduate courses for 1966-67, covering such subjects as: allergy and immunology, learning development, progress in understanding the newborn infant, and genetics in metabolism. Information may be obtained by writing Robert G. Frazier, M.D., at the Academy, P.O. Box 1034, Evanston, Ill. 60204.
- American Academy Of General Practice** Angrey teens, stroke, birth and brain damage highlight the fall AAGP assembly to be held in Boston, Oct. 10-13 at the new War Memorial Auditorium.
- GP Seminar** A two-day seminar, *Psychiatry, 1966, for the General Practitioner* will be held by the Department of Psychiatry of Temple University Health Sciences Center at the Marriott Hotel, Philadelphia, Nov. 5-6 to discuss the latest advances in psychiatry as they apply to the general practitioner. For complete information write: Director, Department of Psychiatry, Temple University Health Sciences Center, Broad and Ontario Streets, Philadelphia, Pa. 19140.
- American College Of Physicians** The ACP will hold a regional meeting for internal medicine specialists in Maryland and the District of Columbia on Oct. 15. It will be held in the Auditorium of the District of Columbia Medical Society Building in Washington, D.C.
- PG Course Hahnemann** Postgraduate Education Courses sponsored by Department of Medicine, Hahnemann Medical College and Hospital: Oct. 3-5, 1966, Rational Therapy and Control of Tuberculosis, (Cosponsored with Henry R. Landis State Hospital). Oct. 5, 1966 to March 29, 1967 (Wednesdays 1-4 p.m.) General Internal Medicine.
- PG Course Pediatric Allergy** A *Post Graduate Course in Pediatric Allergy*, St. Christopher's Hospital for Children, Pediatric Dept. of Temple University Hospital will be given in conjunction with the 1966 Asthma Symposium at Children's Heart Hospital, November 2-3, 1966. Address inquiries to the Director of the Asthmatic Center, Children's Heart Hospital: Leonard S. Girsh, M.D., 3701 N. Broad Street, Phila., Pa. 19140. A.A.G.P. approved.
- Workshop Phila. County** The Philadelphia County Medical Society will hold a Workshop in Clinical Nutrition during its 11th Annual Conference on *Nutrition Metabolic Considerations in Disease* at 2100 Spring Garden Street, November 2, 1966. For information write: Dr. Milton M. Perloff, Chairman, 2923 Cheltenham Ave., Phila., Pa.

Auxiliary Affairs

REPORT OF THE PRESIDENT, SUSSEX COUNTY AUXILIARY

The Woman's Auxiliary to the Sussex County Medical Society began the year with a luncheon meeting in October. This was held in Rehoboth at the Avenue Restaurant. More than twenty members attended and the main topic of discussion was the serious problem of the shortage of money for nursing scholarships.

The idea of holding a wig fashion show, which would be open to the public, was born here. All the many details involved in this type of thing need not be given since all of you are familiar with it. I shall simply say that thanks to the chief coordinator, Mrs. Joseph Elliott, and the ticket chairman, Mrs. Robert Lewis, a very successful wig fashion show and luncheon was held at the Seaford Country Club in April. The proceeds were turned over as quickly as possible to the Health careers treasurer and soon were awarded to deserving candidates.

Although the luncheon was our main project of the year we also accomplished a few other things. Our AMA-ERF chairman, Mrs. Edward Graybeal, obtained the Christmas Card demonstration books and saw that they were widely distributed. The result was that money was earned for that worthy cause. In addition the membership voted to contribute \$100.00 from the treasury funds to AMA-ERF. Since our membership consists of only thirty-seven women this is no small amount. However it was felt that the money could be put to better use this way than any other.

In the fall Mrs. Joseph Elliott, who had been working for some time, writing a revised constitution that would conform to the state one, was able to distribute copies to nearly all members.

For many years past we have held eight meetings each year; one each month from October through June. Now, however, the Sussex County Medical Society has voted to hold only four meetings each year. Since our Auxiliary constitution is written to have our meetings coincide with those of the men we shall henceforth hold just four meetings a year also. The effect upon what we are able to accomplish will have to be evaluated at a later date.

During the spring, several members again conducted interviews with candidates for the nursing grants. In many instances last minute interviews were given fast, but complete attention so they would be ready for the mid-May deadline. Then late in May three more candidates were interviewed when a new fund was given by the Milford Lions Club. Two girls were selected.

MEALS ON WHEELS

Meals on Wheels may well be the service you can render to the often-forgotten old and lonely of your community. The development of *Meals on Wheels* program by one of the Kent County Medical Auxiliary members in the Smyrna area, although not auxiliary activated, was planned, offered and the lack of "takers" evaluated and shared with the Kent County Auxiliary. They learned from the experience and realized that the method of solving one of the problems of the aged in one section would not necessarily work in their own local situation. This was not wasted effort, because Kent County feels it is only through trial and effort that the rejection of programs can be valid.

So ended a full and happy year.

Mrs. A. M. Devenis, President

PLASMA CORTISOL

An Evaluation of Recent Experience

- Cortisol output by the adrenal may now be evaluated by plasma measurement. This method is especially suited for confirming normal diurnal variation of cortisol, and for suppression and stimulation tests. Recent experience is presented.

BERNADINE Z. PAULSHOCK, M.D.
EUGENIA DORYWALSKI

In recent years numerous studies have confirmed the non-steady state of adrenal hormone output. Particularly valuable has been the demonstration of a circadian variation in the output of cortisol, the level normally being significantly lower in the afternoon than in the morning.¹ Although assessment of adrenal function by the clinical laboratory has traditionally been based on the evaluation of total 24-hour excretion of the hormones or their derivatives in urine, measurement of plasma cortisol is more practicable than urinary collection for defining the adrenal output at different times of the day.

The diurnal variability has been demonstrated to be of important diagnostic usefulness. Patients with Cushing's syndrome, whether the disease has as its basis adrenal hyperplasia or tumor, lose this diurnal fluctuation.² In addition, it has been recently suggested that the suppression and stimulation

tests used in the evaluation of suspected adrenal hyperfunction can be more efficiently performed by determination of plasma cortisol or plasma 17-hydroxycorticoid (17-OHCS) rather than by the determination of 24-hour urinary 17-hydroxycorticoids. Several patients with true Cushing's syndrome have been reported whose only laboratory abnormality has been a loss or reversal of diurnal fluctuation in plasma cortisol without an increase in total 24-hour urinary corticoids.³

Several different methods, including double isotope methods, are in present use for determination of plasma cortisol or total 17-OHCS.^{4,5,6}

The Special Chemistry laboratory of the Delaware Division has been accumulating experience with the fluorometric method reported recently by Mattingly, a method somewhat less tedious than the Porter-Silber reaction in common use for urinary 17-OHCS and also for plasma.⁴ This is a preliminary report of the first results with the measurement of plasma cortisol.

Dr. Paulshock is Associate in Medicine and Attending Physician, Metabolic Clinic, Delaware Division, Wilmington Medical Center.

Miss Dorywalski is Supervising Technician, Endocrine Laboratory, Delaware Division, Wilmington Medical Center.

TABLE 1

Diurnal Variation of Cortisol
(Mcg/100ml) in Five Normal Men

Subject	A.M.	P.M.	% Decrease
1—	17.4	7.1	58
2—	27.7	11.6	58
	18.1	8.7	52
3—	24.0	15.6	35
	13.0	11.4	12
	19.2	11.2	43
4—	29.5	13.7	54
	25.2	10.0	60
5—	25.7	12.0	54
	24.4	15.4	41

The decrease from 8 a.m. to 4 p.m. in presumably normal men is shown in Table 1. Note that only one subject failed to show a significantly higher a.m. value than p.m. value and his values were as expected when repeated. Several subjects were examined more than once with quite similar results on each occasion. Variation in two of these subjects at intervals throughout the day is also charted. Both of these men, one of whom had values determined on two days demonstrated a slight increase in the early afternoon after lunch before their p.m. decrease.¹ (Figure 1)

Control values have also been obtained for women. (Table 2) In several of these female controls only minimal decrease of p.m. level was demonstrated despite absence of any clinical abnormality. (Subjects 2, 3 and 12 were suffering from allergic rhinitis when examined). Exogenous estrogen has been shown to create an increase in total measurable cortisol presumably by an increase in serum-binding protein, but the anticipated diurnal decrement is not abolished.⁷ We have confirmed this. An elevated value for plasma cortisol has been obtained from a female patient whose urinary corticoids were actually negligible and whose response to metyrapone (Metapirone) indicates secondary adrenal insufficiency. This artifact which could have been very confusing from a diagnostic standpoint was due to concomitant administration of estrogen replacement therapy.

TABLE 2

Diurnal Variation in 14 Normal Women

A. Without estrogen therapy

Case	A.M.	P.M.	Decrease	Comment
1—	19.8	15.6	21	At menses
	12.9	16.6	—	Midcycle
2—	12.3	9.8	20	At menses
	16.0	14.0	12	Midcycle
3—	18.7	28.8	—	At menses
	28.2	25.5	10	Midcycle
4—	16.1	10.8	33	Day 7 of cycle
5—	11.0	11.2	—	Pre-menses
6—	18.0	10.8	40	Day 12 of cycle
7—	20.2	8.0	61	Pre-menses
8—	22.7	13.8	39	Pre-menses
9—	22.4	11.2	50.0	Post menopause
	12.3	—	—	—
10—	17.0	9.1	42	Post menopause
	—	9.8	—	—
11—	26.4	13.9	47	Hysterectomy premenopause
12—	13.8	19.6	23	Hysterectomy premenopause

B. With estrogen therapy

Case	A.M.	P.M.	% Decrease
13—	45.3	29.4	35
14—	56.8	25.1	56
	3-5d. after estrogen		
13—	29.4	—	—
14—	32.8	14.5	56

That the diurnal difference persists even in patients with severe illness has been demonstrated in hospitalized patients with various medical problems. (Table 3)

Dexamethasone suppression tests performed by this method have shown a.m. suppression following prior midnight admission of dexamethasone but not to the very low levels reported by Nichols and Nugent, although their particular cortisol method is different from the one we are using.⁸ (Table 4)

Changes in plasma cortisol following ACTH stimulation are shown in Table 5. Note that significant elevations from abnormally low basal levels occurred in two patients with

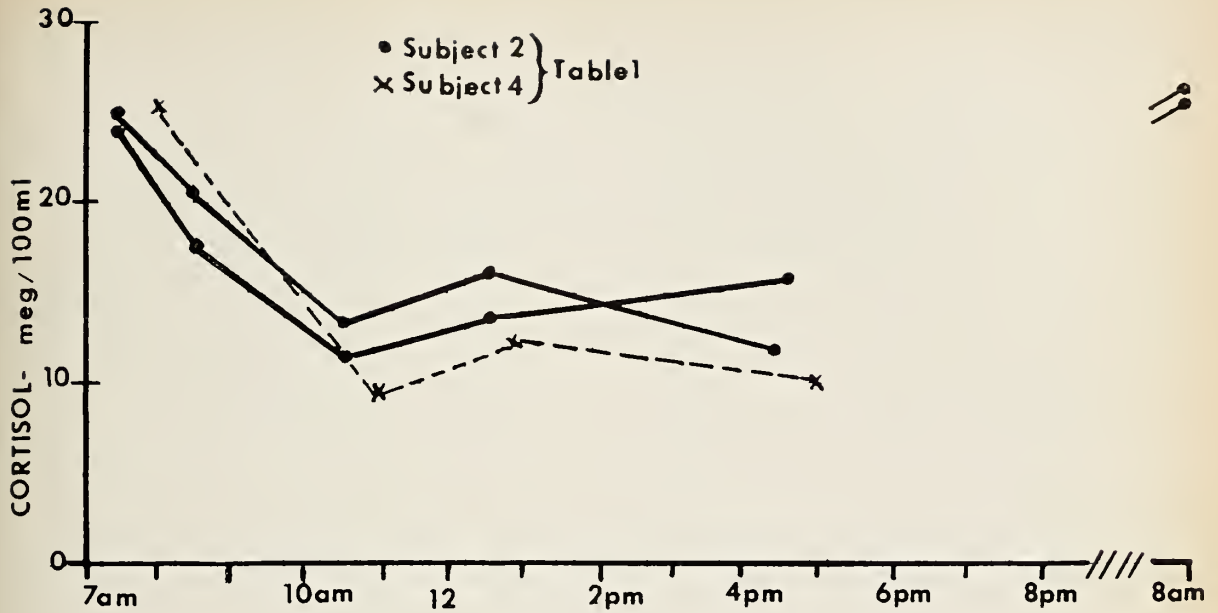


Figure 1

TABLE 3

Diurnal Cortisol Variation in Various Patients (mcg/100 ml)

Sex	A.M.	P.M.	% Decrease	Description
F	19.0	7.8	58	Anorexia and asthenia
F	25.4	9.2	56	Transient hypercalcemia
M	35.7	10.1	72	Myocardial infarction
F	36.9	19.7	48	Cushing's suspect
F	18.3	13.2	28	Cushing's suspect
F	28.0	17.0	39	Cushing's suspect

TABLE 4

Dexamethasone Suppression of A.M. Cortisol

Sex	Before Rx	After Rx	% Decrease	Comment
M	24.4	6.7	73	Cushing's suspect
F	19.9	5.1	75	Cushing's suspect
F	23.6	9.1	62	Cushing's suspect
F	25.6	9.1	64	Cushing's suspect
M	20.4	10.0	51	Normal patient
F	30.9	9.3	70	Normal patient

secondary hypoadrenal states⁷ (Cases 7, 8).

The differential diagnosis of Cushing's syndrome versus non-hormonal obesity is often complicated by the elevation of cortisol or urinary steroids in obese patients, but this urinary increase is usually associated with normal or even slightly low plasma cortisol levels as well as with preservation of the normal diurnal rhythmicity.⁹ Comparative data from three such patients recently studied by

the author (B. Z. Paulshock, M.D.) is presented in Table 6.

All three of these patients are obese young women with clinical findings suggestive of adrenal hyperactivity. Cases 1 and 2 have long intervals of amenorrhea. 17-OHCS suppression was almost complete by urinary assay despite slightly elevated baseline studies. Diurnal decrease of plasma cortisol was present and not quantitatively different from the values

TABLE 5
ACTH Stimulation of Cortisol
Plasma Cortisol (mcg/100 m l)

Case	Sex	Before ACTH	After ACTH	% Increase	Comment
1	F	30.6	70.6	131	Suspect hypopituitary
2	F	19.0	52	174	Anorexia and asthenia
3	M	31.0	80	158	Infected decubitus
4	F	27.3	150	450	Cachexia; day before death
5	M	26.0	76	192	Renal disease; hyponatremia
6	F	20.0	93	364	Suspect adrenal insufficiency
7	F	2.2	14.7	545	Steroid withdrawal
8	M	3.7	23	520	Panhypopituitary

TABLE 6
Plasma—Urinary Value in Obese Women

Case	<i>Plasma Cortisol (mcg)</i>			<i>Urinary 17-OHCS (mg/24 h)</i>	
	A.M.	P.M.	% Decrease	Control	After Dexamethasone (2 mg/d for 2 d)
1	28	17.0	39	11.4	0.5
2	18.3	13.2	28	5.8	2.0
3	10.7	12.6	—	7.9	2.2

obtained in our female controls. Case 3 is the only patient with a lower a.m. than p.m. value for plasma cortisol but unfortunately the diagnostic significance of this is not certain since several of our normal female controls have had similar results. It could be suggested that this patient, the one in-patient of the three described, was disturbed by the hospital routine. However, numerous investigators have confirmed that diurnal cortisol variability is very slowly altered by alteration of the normal sleep-rest schedule.

In summary, our current experience with determination of plasma cortisol by a fluorometric method is presented. It has been suggested that assay of plasma cortisol may be of special clinical usefulness in the demonstration of normal diurnal variability in patients suspected in having Cushing's disease, but in our laboratory our female control data has not consistently demonstrated significant diurnal variation. The determination of plasma cortisol instead of urinary assay may even-

tually become a preferred method for reasons of efficiency in the performance of suppression or stimulation tests to evaluate adrenal function.

ACKNOWLEDGEMENT

The authors wish to express their appreciation to Edwin M. Richardson, Ph.D., Biochemistry Department, Delaware Division, Wilmington Medical Center, for his cooperation. William Vandervort, M.D., kindly helped in the provision of controls for the evaluation of dexamethasone suppression. Gratitude is also acknowledged to the Medical residents and laboratory staff of the Delaware Division who provided control data.

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RECENT ADVANCES IN LOWER EXTREMITY PROSTHETICS

- The total contact socket, fabricated from plastic resins, has eliminated some of the "art" from the "art science" of limb-fitting. It is a recent, welcome addition for the lower-extremity amputee.

J. A. W. RICHARDSON, M.D.

Throughout the centuries, wars have played an important, major role in the development of prostheses and their component parts. In the Twentieth Century, the greatest impetus to research in the field of prosthetics came as a result of World War II from combat amputees, governmental agencies, and the cooperative efforts of patients, physicians, prosthetists, engineers and industry . . . especially those interested in electronics and plastics technology.

A plastic total contact socket for the lower extremity amputee has been one of the results of these research efforts. Utilization of certain biomechanical principles during fabrication of this type of socket has resulted in a more comfortable fitting socket. And for the lower extremity amputee, comfort is probably the single most important factor in his acceptance and utilization of a prosthesis.

During the remainder of his life, the lower extremity amputee will encounter certain problems chiefly, pain, circulatory insufficiency, skin lesions and musculo-skeletal change of the stump. Many of these conditions are secondary to prosthetic use. The total contact socket has proven effective in relieving some of these conditions.

The total contact socket (Patellar Tendon Bearing) prosthesis for the below-knee amputee has been commercially available approximately 5 years. In our experience at Jefferson

Medical College Hospital, the only absolute contraindication to prescribing this type of prosthesis is allergy to the materials used in fabrication.

Case 1

This 60 year old, white man sustained trauma in 1930 resulting in a left below-knee amputation. When seen in our facility in August, 1962, his ten inch below-knee stump showed multiple cysts and areas of chronic skin infection. There were several areas of callosities over the distal end of the stump. He had worn standard fitting, wood sockets for the preceding 30 years. In November, 1962, he was fitted with a total contact socket and simple thigh cuff suspension. Over the ensuing two months the skin problems resolved. One month later, he developed a vesicular eruption of the stump and this recurred each time he applied the prosthesis. Patch tests with various materials used in the fabrication of the prosthesis revealed an allergic reaction to the plastic resin. The prosthesis was changed to a standard fitting wood socket and he has not had any further stump problems. It is interesting to note that he stated a preference for the plastic total contact socket since it "felt lighter". He continued to use the SACH foot rather than reverting to the articulated ankle, wood foot.

One of the factors to be considered prior to prescribing a Patellar Tendon Bearing prosthesis is the length of time the amputee has

Dr. Richardson is Clinical Director, Jefferson Medical College Hospital, Philadelphia, Pennsylvania.

been utilizing a standard fitting socket. We have converted long time wearers of the standard fit to a total contact socket if the patient agreed to try it and we felt the patient would cooperate by participating in gait training sessions and returning to the prosthetist for the necessary adjustments. A review of fifty below-knee amputees, selected at random from our files, revealed 47 unilateral and 3 bilateral amputees. Fifteen long time wearers of standard fitting sockets had replacements with the same type of fitting. Thirty-five patients, including 2 of the bilateral amputees, long time wearers (4 to 40 years) of standard fitting sockets, were converted to the total contact socket and there was only one amputee who rejected this type fitting.

Another factor in determination of prosthetic prescription is patient motivation. If, in your judgement, the patient will not expend time and effort to obtain a comfortable fit and/or be trained in the utilization of the total contact socket prosthesis, he should be fitted with a standard fitting socket.

Case 2

This 38 year old white man had bilateral below-knee amputations as a result of a train accident in 1938. He had been fitted with and utilized standard fitting wood socket prostheses for a period of three years. When stump problems ensued, he began to use a four-wheeled dolly for locomotion rather than having the prostheses refitted and/or replaced. In 1961 he developed empyema and was admitted to Jefferson Medical College Hospital. During this hospitalization he was referred to the Department of Physical Medicine and Rehabilitation for prosthetic prescription. He appeared to be cooperative and was fitted with total contact socket prostheses. Following discharge he became recalcitrant, appearing late, if at all, for his gait training sessions; would not take the prostheses home, stating that he could make more money as a beggar and pencil peddler. After six months he still would not wear the prostheses.

Occasionally medical and para-medical personnel may be partially responsible for the patient's lack of acceptance of prostheses.

Case 3

A 40 year old, Negro man had a compound fracture of the left leg in 1947. Subsequently, he developed chronic osteomyelitis and had numerous surgical procedures until June, 1960, when a definitive left below-knee amputation was done. One month later, a Patellar Tendon Bearing prosthesis was prescribed. The prosthetist was not qualified in its fabrication and after multiple fittings changed the socket to a standard fitting. One year later, it was necessary to prescribe a new prosthesis and this time a well fitting Patellar Tendon Bearing prosthesis was obtained through a prosthetist qualified in fabricating the total contact socket. The patient then had multiple complaints but apparently none of sufficient severity to return to the prosthetist for the necessary adjustments. He was seen at Jefferson Medical College Hospital in January, 1964. Stump shrinkage made it necessary for him to wear 3 wool stump socks. A new Patellar Tendon Bearing prosthesis was fabricated for him and to date he has required only three minor adjustments. He has a comfortable fit and has voiced fewer complaints. Fitting problems are related to cast modifications. Therefore, it is essential to have the total contact socket prosthesis fabricated by a competent, qualified prosthetist. Since the initiation of instructional courses in total contact sockets there are only a few, if any, areas of the state wherein qualified personnel are not available.

For a brief period of time following development of the total contact socket many people believed that the Patellar Tendon Bearing socket was synonymous with simple cuff suspension. While the majority of patients can utilize this form of suspension, there are times when additional support by means of external hinge knee joints and leather thigh corset is necessary. This is true particularly if the stump length is less than the diameter of the knee.

Total contact with the stump must be made. If there is any air space, the patient complains of pain and the stump may show an irritated, edematous area corresponding to the air-space. Once total contact between socket and stump

is achieved, the pain and skin irritation are relieved.

For the above-knee amputee the optimum of comfort, function, and cosmesis can be given when the prosthesis is held on by suction. With the above-knee amputee, the total contact socket is of more recent vintage and our experience with this type fitting is very limited. Many of us are reluctant to be the first to try the new or the last to lay aside the old. For this reason, I think it behooves all to report experience, however limited. We have prescribed five total contact sockets for above-knee amputees; two of these were for patients who had previously worn the quadrilateral willow wood suction suspension prosthesis.

Problems to Eliminate

Major problems, in the above-knee amputee, have been the development of an adductor roll, perineal discomfort and irritation of the stump skin. These problems can be eliminated to a great degree by proper fit and alignment of the prosthesis. One of the advantages of the total contact socket is the improved circulation and reduction of edema of the stump. The intermittent back pressure developed with suction suspension aids venous return, helps reduce stump edema, and promotes resolution of trophic skin changes.

Another advantage is the improved distribution of weight bearing pressures. The total contact socket is not meant to be end weight bearing. It is designed to distribute unit pressures over a greater surface area and give the amputee greater comfort.

Reports indicate improved proprioception during use of the total contact socket; the patient has the sensation of continuous contact between stump and socket during swing and stance phase. Amputees have also reported a change in the position of the phantom—with the phantom limb being extended rather than telescoped.

Stump shrinkage promoted by the intimate fit of the socket may necessitate frequent changes. One of our patients, fitted with a total contact socket, is satisfied with the prosthesis but dislikes taking time off from work

for necessary adjustments. She has had two adjustments in six months of use.

There is a problem of heat dissipation since plastic is relatively non-porous. Odors can be controlled by strict attention to proper stump hygiene and cleansing of the prosthetic socket.

The physiological age of the patient and his ability to apply the prosthesis should be considered at the time of prescription. The energy expenditure required to don the prosthesis might compromise the cardiovascular-pulmonary reserve. Thus the physiological age of the above-knee amputee may contraindicate prescription of the total contact socket.

Each patient must be trained in utilization of his prosthesis. This is an important part of the follow-up care. During the training period, problems are anticipated and corrected before they are magnified.

Summary

Our over-all experience has demonstrated allergy to any of the materials used in fabrication of the total contact socket is the only absolute contraindication to prescribing this type of fitting for the below-knee amputee.

With the above-knee amputee, our experience is limited and further evidence should be accumulated before definite contraindications are established. Possible contraindications are the physiological age of the patient and a low cardio-pulmonary reserve—in terms of the energy expenditure requirement for application of the artificial limb.

The advantages of improved venous return, reduction of edema, improved distribution of weight bearing pressures and improved proprioception in the stump outweigh the disadvantages of increased need for socket revision and lack of heat dissipation. The total contact socket may not be the final answer for the circulatory, skin and musculo-skeletal change problems of the lower extremity amputee but is a valuable addition to our armamentarium. Increased use of this type socket fitting should enable us to achieve our goal of the best possible rehabilitation for our patients, the lower extremity amputees.

COMMON SUPERFICIAL FUNGAL INFECTIONS OF THE SKIN

- Effective therapy of fungal infections of the skin rests on an accurate diagnosis. The means for diagnosis lies within the ability of all physicians. Techniques are discussed which will lead to the resolution of many previously resistant cutaneous problems.

DONALD SCHETMAN, M.D.

Cutaneous fungal infections are among the commonest problems presented to the physician. No portion of the skin or its appendages is exempt. Hair, nails and glabrous skin can act as substrate for these non-chlorophyll producing parasites of man. In the last fifteen years, the physician's therapeutic armamentarium has been bolstered by many anti-fungal agents. It is fair to say that therapy has outdistanced clinical diagnostic ability. Therapeutic failures are more frequently due to incorrect diagnoses than due to drug inadequacy. The treatment of a psoriatic, seborrheic or monilial intertrigo with griseofulvin will fail as surely as the treatment of pernicious anemia with iron salts.

The various species of dermatophytes can cause alopecia, intertrigo, nail dystrophies and vesiculo-squamous eruptions of the glabrous skin. Though these diseases, called Tineas, are common the diagnosis should be substantiated by either microscopic examination of the infected tissue or by culture, if we are to avoid the expense and disability of prolonged and inappropriate therapy. Not all intertoe web scaling or patchy inflammatory alopecias are "ringworm" infections. Unlike other disease processes, the laboratory diagnosis is within the scope of every physician

owning a microscope, some slides and coverslips and a bottle of 15% sodium or potassium hydroxide. The microscopic examination of a blister top, broken hair, scale or subungual debris mounted in the alkali and allowed to stand for 15 or 20 minutes, will show the long, graceful, hyaline filaments of the fungus. Though not all cases show these organisms in abundance, and indeed some cases require repeated examinations, this simple procedure can substantiate a clinical impression and allow effective treatment to be instituted. The use of a modified Sabouraud's medium¹ for culture of the material is helpful, but it is less accurate than the direct mount exam and may require at least two to three weeks for adequate growth and identification.

A few comments are warranted concerning griseofulvin and its use. The drug should be administered after a meal and with a glass of milk. The reason for this is that its absorption from the gastrointestinal tract is much more complete in the presence of fat. The new "microsized" or "ultrafine" products have by and large replaced the original product. The manufacturer's claim, that the blood levels are equivalent to the microsized product in one half the dosage of the older griseofulvin preparations, is not always valid. On many occasions 750 mg. to 1000 mg. total daily doses are required for full antifungal activity.

Dr. Schetman is Associate in Dermatology, St. Francis Hospital, Wilmington, Delaware.

Just as we have seen resistance develop to the anti-bacterial antibiotics, relative resistance has been noted to griseofulvin by the dermatophytes. Griseofulvin is a relatively safe drug. It does however, have some side effects; the most common being headache, gastrointestinal upset, ataxia and photoallergic skin eruptions.^{2,3} It has also been noted that griseofulvin may precipitate or aggravate a pre-existing monilial infection.

Though griseofulvin is usually highly effective antifungal therapy one must not forget topical measures and ecological factors. It should be noted that in acute inflammatory ringworm, griseofulvin is relatively ineffective and topical measures are of prime importance.

Borderline Parasites

In order to understand topical therapy, we must realize that the dermatophytes are only borderline parasites. They live and feed upon the dead portion of the skin, for example; keratin in its various forms such as hair, nails and the stratum corneum. Areas of warmth and moisture in the host favor fungal infection. Contrary to what is commonly thought, the dermatophytes have a low degree of contagiousness and their ability to cause clinical disease rests more with the host than the parasite. Many topical measures owe their effectiveness to their keratolytic action whereby the horny layer of skin is shed and with it the fungus. Whitfield's ointment, salicylic acid and undecylenic acid as well as such newer products as tolnaftate⁴ all have their place in therapy. They are, however, of no use in the treatment of nail or hair infections. It is in this area that griseofulvin stands alone in its therapeutic effectiveness. Especially in the intertriginous and pedal fungal infections rest, aeration and dryness of the part are at least as important as the topical application of the salves and solutions.

Moniliasis is another common cutaneous fungal infection which most frequently involves the intertriginous areas of the groin, axillary and inframammary areas though the oral mucous membrane and nail folds are not infrequent sites. When infecting the intertriginous areas, a characteristic clinical picture

is often seen. The affected area is a beefy red in contrast to the less intense tan to fawn color of the Tinea. Satellite lesions are frequently present beyond the active border. The collarette of skin surrounding these satellites is a prime site for obtaining material for microscopic examination and culture. It is unquestionably more difficult to find the small clusters of yeast like organisms on microscopic examination than it is to find the hyphal filaments of the dermatophytes. The use of special media, such as the Pagano Levin medium, allows one to identify any yeast present while inhibiting the growth of fungal and bacterial contaminants. The growth of the candida species requires only 72 hours in contrast with the longer incubation period of the dermatophytes. One must always bear in mind that the mere fact that one is able to culture candida from a dermatitic lesion does not necessarily indict the yeast as the causative organism. Many moist, exudative lesions will show evidence of secondary colonization by candida species which have no significance in the pathogenesis of the dermatitis. Hence the only certain method of diagnosis is the microscopic examination of skin scrapings, which admittedly may be difficult. In many cases a positive culture and a compatible morphologic picture will be sufficient grounds for the institution of specific therapy.

Infections Often Overlooked

Chronic paronychia infections are a relatively frequent form of monilial infection which is frequently overlooked. It actually represents a mixed infection of a gram negative bacteria,⁵ most frequently *Pseudomonas aeruginosa*, and *Candida albicans*. The nail plate is thickened and frequently bluish-green in color most likely due to liberation of pigment by the *Pseudomonas* organism. The paronychia tissue is erythematous, edematous and tender. The cuticles are absent and a definite space can be noted between the nail fold and nail plates. This condition is chronic in contrast to the acute staphylococcal paronychias. In the former there is little if any purulent drainage in contrast to the staphylococcal variety. The chronic paronychia is seen in housewives, cannery workers and others whose

hands are frequently in water and whose cuticles are injured either by accident or cosmetic design. All too frequently this condition will be treated as a dermatophyte infection with griseofulvin or by evulsion of the entire nail. Again a proper diagnosis is required before instituting therapy. General measures designed to keep the affected area out of water, the avoidance of trauma and the topical use of Mycolog cream, castellani paint or thymol in chloroform are all that is needed. The cuticle area must be protected until they reform and seal the paronychia space.

Mycostatin is an effective antimonilial agent. Except in certain rare instances, oral administration is useless in the treatment of cutaneous yeast infection in as much as there is little or no gastrointestinal absorption. Its prime use is in eliminating monilial overgrowth in the gastrointestinal tract.

Oral Contraceptive Agents

It has been noted that the oral contraceptive agents may precipitate vaginal moniliasis and a secondary vulval and crural infection.⁶ When this occurs, the monilial infection is quite resistant to therapy and in some cases the oral contraceptive may have to be discontinued in order to achieve a cure.

Tinea versicolor is a skin disease which owes its importance not to its ability to cause potentially disabling diseases, but rather to its cosmetic effects. The disease is characterized by a varying number of hypo or hyperpigmented patches usually distributed over the upper one half of the trunk, neck and proximal

upper extremities. The lesions are smooth but show a fine branny scale when gently scraped. When exposed to the Wood's light the patches frequently fluoresce. Though the disease is present all year round, it may seem to occur primarily in the summer because sun tanning makes the lesions more apparent. Scraping shows abundant grape-like clusters of spores with short hyphal filaments. The causative organism goes under the imposing name of *Malassezia furfur*. It has never been successfully cultured. Salicylic acid, sodium hyposulfite, Selsun and other medications will clear the infection. Effective therapy must be continued for at least two months and preferably three months. At the end of this time the patient should be carefully reexamined to rule out any remaining foci. If this is not done, a small active residual area will lead to extension of the process and complete recolonization. The variegated color of the skin may persist even after complete elimination of the parasite, but ultimately the color variations will disappear.

When one can diagnose and treat these fungal infections, a large part of the non-dermatologist's skin problems will be easily handled. Just as in other areas of medicine, successful therapy rests on the accuracy of the diagnosis.

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ATTENTION PHILATELISTS!

What do five signers of the Declaration of Independence, Rabbi Moshe Ben Maimonides, Aristotle and Goethe have in common? All were prominent physicians or made significant contributions to medical knowledge. They are among the hundreds of people whose achievements in medicine have been commemorated on postage stamps. Physicians may be amazed to discover how thoroughly the history of medicine has been recorded on stamps. A suggestion—there may be medicine in stamps as well! (*Medicine, Stamps, and the History of Man*, Minkus Stamp Journal, August)

PERITONITIS OF UNUSUAL ORIGIN

- This case report based on an incident brought about by a cause so trivial that it might easily not have happened, has consequences that are life threatening.

GIRARD S. SERINO, M.D.

Peritonitis is simply an inflammation of the peritoneal cavity — this may be due to a number of causes: bacterial, chemical, thermal, irradiation, physical injuries, and foreign bodies.

The most common source of peritonitis is, as we know, the intestinal tract itself. Normally, however, bacteria do not pass through the intestinal tract and reach the peritoneal cavity! Something must start the process, such as, any injury to the intestinal wall or loss of viability through inflammation or interference with circulation — now the stage is set — for bacteria to pass through the intestinal wall and produce a peritonitis either localized or generalized.

When we are presented clinically with a case of peritonitis our minds dart to the common cause — perforation, as in appendicitis, peptic ulcer, diverticulitis, cholecystitis, tubo-ovarian disease, and carcinoma.

My experience with the patient, whose case history follows, alerted me anew to the realization that while a diagnosis of peritonitis may not be difficult — the cause of the peritonitis may well be elusive.

Report of a Case

A 41-year-old white man was admitted to the Wilmington General Hospital on November 22, 1960, chiefly complaining of nausea, vomiting, and persistent right lower-quadrant pain of two days duration. The history did not point toward ulcer, gallbladder, or colon disease — it did reveal that he had an appendical abscess which had been drained at age 18. Tenderness, and muscular rigidity were present over the entire lower abdomen — and the area of greatest tenderness was over the McBurney area. The pulse was 110, temperature 101°F. The white cell count was 18,500, hemoglobin 13.5 gm. Bowel sounds were absent. The old McBurney incision which had herniated was chosen for the incision site. Some air escaped when the peritoneum was opened; cloudy purulent exudate was present in great amounts in the pelvis and lower abdomen — this was suctioned out and cultures were taken. The terminal ileum was kinked by firm adhesions — no evidence of an appendiceal stump was found. However, a wooden toothpick which could not negotiate the turn in the twisted small bowel had perforated it — about an inch of the tooth pick was visible. A purse-string suture was placed around the opening; the foreign body removed; and the

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suture tied, sealing the perforation. Drains were inserted, and the abdomen closed. He was discharged on December 12, 1960, in excellent condition. However, a weakness of the operative wound as a result of drainage of purulent material was evident.

This case brings up some interesting questions: If one of your patients should swallow a foreign body, say an open safety pin, a toothpick, a piece of glass, a sharp metal object — what are his chances of developing a bowel perforation with resulting peritonitis? The answer is that swallowed objects capable of penetrating the wall of the gut seldom succeed in doing so. A survey of 800 patients treated for ingested foreign bodies in the Boston City Hospital² showed that 99% did not perforate. This is indeed remarkable — undoubtedly many pins do perforate the bowel but continue to pass — and healing takes place without leakage.

When perforations occur in the small bowel where are the most frequent sites? In the small bowel, perforations more often occur from small objects entering the appendix or a Meckel's diverticulum where they become trapped and may perforate. Where the bowel has become coiled (from previous peritonitis) as in the case presented here, the turns are acute, and perforation may easily result.

If the foreign body has passed through the small bowel, it is usually passed without trouble in the stool. But when arrest does occur in the colon, it is most likely to be found in the flexures and in the sigmoid area. If it is a sharp object, such as a pin, a nail, or a turkey bone, it may perforate the colon wall slowly — showing signs of peritoneal irritation or abscess formation.

If one is fortunate in eliciting in the history that a foreign body has been swallowed and if the object is opaque to X-rays, usually its location and progress can be determined. However, glass, plastic, and other radiolucent foreign bodies present more difficulty and their presence is determined only if they produce complications. In some cases the picture from a clinical and radiologic viewpoint is one of intestinal obstruction.

Again, if the patient is a professional debris swallower, the diagnosis, when symptoms arise, is less difficult. These people swallow such items as glass, electric bulbs, nails, parts of bed springs, chains, and many other objects. At times signs and symptoms of peritoneal irritation develop when a foreign body perforates the stomach or duodenum — and surgery is indicated for its removal. Since the gastric mucosa is insensitive to foreign bodies, symptoms that may arise are due to complications, such as pyloric or intestinal obstruction, ulceration, hemorrhage, perforation, or abscess formation.

The Bulky Diet

If a patient should accidentally swallow a foreign body will a bulky diet help him prevent a perforation? The bulky diet is used to "coat the foreign body."³ This is a dubious procedure — it implies that the foreign body is hung up in the gastrointestinal tract and that bread, cotton and other materials will overtake the foreign body, encase it, and aid in its passage. But this seldom happens; as a matter of fact, in some cases the ingested material surround the foreign body and produce an obturator obstruction.⁴ The best plan is to stay on a regular diet — but cathartics are counterindicated.

When this patient was told that a toothpick had perforated his bowel producing a peritonitis — he recalled eating (two days before his pain started) something "hard" in a sandwich. Thinking it was bacon he swallowed it. He said, "I'm a fast eater." The chances are that the toothpick would have passed in his stools had he not developed a previous peritonitis, which had converted his terminal ileum into a winding channel.

Following an abdominal operation — particularly where peritonitis has been a factor — the chances of adhesions twisting the bowel are significant. In such cases we might warn these patients about the hazards of gulping their food. If they chew their food thoroughly the chances are they won't swallow a foreign body with it — a foreign body which may jeopardize their lives.

What is the mortality rate from a ruptured ileum? Cole and Zollinger⁵ state that the mortality is directly related to the length of time intervening between the injury and perforation: 6 hours or less . . . it is 15%; 6 to 12 hours . . . it rises to 35%; 12 to 24 hours . . . it may reach as high as 80%.

Agreement is uniform that adhesions that are potentially dangerous develop after abdominal operations—and the most frequent antecedent is a perforated appendix necessitating drainage. These adhesions are apt to produce “sharp cornered turns” in the bowel—under these circumstances bowel perforations with peritonitis or abscess formation will certainly exceed the expected rate of one percent when foreign bodies are ingested.

The fate of a foreign body once it has entered the peritoneal cavity is curious to consider. The object may migrate to form an

abscess some distance away, or the foreign body may induce a local foreign body reaction thus fixing it in position without abscess formation. Over a period of time bones are often not found at all.⁶ Apparently they are absorbed easily by the tissues.

Accidental swallowing of a foreign body by the gulping of food, and the resulting dire consequences as described in this article, may be avoided once we acquaint our patients with the facts—and a warning. Certainly patients who have had a peritonitis should never rush their meals.

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CLINICAL CENTER STUDY OF DISEASES OF CALCIUM METABOLISM

The cooperation of physicians is requested in a continuing clinical study of calcium metabolism and calcium kinetics conducted by the Metabolism Branch, National Cancer Institute, Bethesda, Maryland.

Of interest for this study are patients with calcinosis universalis, hypoparathyroid, hyperparathyroidism, pseudohypoparathyroidism, and hypercalcemia of malignancy without bony metastases. Patients with roentgenologic evidence of bone disease as well as documented serum calcium abnormalities would be of special interest.

Patients for this study should be clinically stable, ambulatory, continent of urine and feces, and be willing to participate in metabolic balance studies, including administration of Ca^{47} , during a 30 day admission to the Clinical Center.

Interested physicians may write: James M. Phang, M.D., Clinical Center, Room 3B-40, N.I.H., Bethesda, Md. 20014, Telephone 301-656-4000, Ext. 63097.

PRESSOR AND ANTIPRESSOR FACTORS OF RENAL ORIGIN

- An estimation of plasma renin activity is of diagnostic value in the diagnosis of renovascular hypertension and primary aldosteronism. Recent evidence suggests that the renal pressor system (renin angiotensin) may be counterbalanced by an antipressor system, localized in the renal medulla in the form of a vasodepressor and anti-hypertensive lipid.

ROGER B. HICKLER, M.D.

I would like to develop the general concept that the kidney may possess endocrine functions that could give it a dual role in blood pressure homeostasis. The renal pressor system, represented by the renin-angiotensin mechanism of the renal cortex, is on a fairly firm footing. Complementing this is a growing interest in and evidence for a possible antipressor system, localized in the renal medulla.

A. The renal pressor system

Renin activity is expressed as millimicrograms of angiotensin per 100 ml plasma elaborated during three hours of incubation at 37°C in a modification of the Dowex resin method of Boucher.¹ All patients were supine and on an unrestricted diet at the time of blood sampling to obviate the stimulating effect of salt restriction and the upright posture, per se, on plasma renin activity. The results of renin assays on peripheral venous blood indicate a normal range of 200 to 600 millimicrograms %. The patients with primary aldosteronism all had levels below this range. In benign essential hypertension the range was comparable to that for the normal control group, except that at the lower limit it tended to overlap into the range of the group with primary aldosteronism. In the group with ren-

ovascular hypertension the majority of cases had levels above the upper limit of normal (or essential hypertension), but there was overlap at the lower level into the normal range. In the group with malignant hypertension extremely high levels were found in every instance, well above the upper limit of normal (or essential hypertension). Thus, the renal pressor system is depressed in primary aldosteronism, normal in essential hypertension, activated in the majority of patients with renovascular hypertension, and markedly activated in essentially all patients with malignant hypertension.

The diagnostic usefulness of these findings is self-evident in the differential diagnosis of the various forms of hypertension, but it is limited, somewhat, by the overlaps, as described.

Because of this, we turned to an analysis of renal vein activity in renovascular hypertension. In benign essential hypertension we have found renal vein renin and peripheral vein renin to be essentially the same. In renovascular hypertension (6 cases) we have found the renal vein renin activity on the involved side to be elevated above the peripheral venous or contralateral renal venous level by two-fold or more. Thus, renal venous analysis offers greatly increased diagnostic accuracy over peripheral venous analysis for renin activity,

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and, we feel, should provide the most sophisticated and accurate method of selecting these patients for renovascular surgery. Another application of this sort of analysis may be in the selection of patients for nephrectomy who have a unilaterally shrunken kidney due to parenchymal disease in the absence of a stenotic arterial lesion but associated with hypertension. In our experience this is as common as renovascular hypertension, but there are few guide posts in the selection of these patients for nephrectomy in the hope of improving their hypertension. In one such patient, extremely high renin activity was found in the renal vein of the atrophic kidney, and nephrectomy provided a dramatic improvement in the hypertensive state. In another such patient, no elevation was found, and one year after nephrectomy there was no change in the hypertension.

Improving the Differential

Another problem, described above, was that of the overlap between the low renin levels found in primary aldosteronism with the lower end of range found in essential hypertension. Since screening patients with "essential hypertension" for possible primary aldosteronism has become a major concern in clinical investigations, we have been exploring techniques to improve this differential. We, as others, have found that salt depletion increases plasma renin activity in essential hypertension but not to any appreciable extent in primary aldosteronism. Thus, the overlap is obviated by placing these patients on a 10 mEq sodium diet for 5 days before determining the peripheral venous renin activity. In 12 patients with essential hypertension and in 2 patients with proven primary aldosteronism, so studied, no overlap was seen between the low level of renin activity in primary aldosteronism with the higher level in essential hypertension. After saline loading (600 mEq i.v. over a 48 hour period), however, the renin level was suppressed in the group with essential hypertension, causing considerable overlap with the two patients with primary aldosteronism. Thus, a low plasma renin activity, *despite* sodium and volume depletion, is a solid diag-

nostic criterion for the diagnosis of primary aldosteronism.

B. An antipressor renal factor

Several years ago we were impressed in our laboratory by the finding that an intravenous injection into the bioassay rat of homogenate of rabbit renal medulla produced a lowering of the arterial pressure that persisted over a number of minutes. It was soon determined that this vasodepressor activity was not found in other tissues of the rabbit and that it was contained in the dialysate, and was, therefore, non-protein in nature. We subsequently discovered that this vasodepressor factor was lipid in nature in that all of the biologic activity in the ultrafiltrate of rabbit renal medulla was extractable into chloroform from an aqueous homogenate.

After intensive chemical work on the lipid, we were impressed that it had a strong resemblance to the "prostaglandins."² These are a group of polar lipids with hormonal activity, derived from fatty acids of the 20 carbon series, with a five-sided ring structure at the center. These compounds were isolated and identified by Bergstrom³ and his associates in Sweden in the seminal vesicles of sheep and in human seminal plasma. Prostaglandins of the "E-series" possess vasodepressor activity. We have recently made a final identification of our renomedullary lipid as being prostaglandin E₂-217, which is comparable to prostaglandin E₂, except that it lacks a hydroxyl radical on the 11-carbon in the ring structure and contains an additional double bond. An identical lipid has been identified by us in the renal medulla of human kidney,

Results of Animal Research

In the anesthetized, laboratory dog, a single intra-arterial injection of the renomedullary lipid produced a sustained fall in aortic blood pressure. In the same animal, when flow was kept constant in the right kidney with a peristaltic pump, pulse pressure widened and mean pressure fell in the renal artery distal to the pump, indicating an active renal vasodilation. In another laboratory dog, in which cardiac output was monitored continuously elec-

tronically, three successive intravenous injections of the renomedullary lipid were administered. There was a sharp depression in aortic pressure, associated with a rise in cardiac output, giving a large fall in calculated peripheral resistance. This would indicate a selective effect on resistance vessels, without any significant degree of venous pooling, a unique and perhaps, clinically applicable feature of this prostaglandin compound.

Another unique feature of this compound is its capacity to exert a sustained antihypertensive effect in the renovascular hypertensive laboratory animal.

Three "Goldblatt rats" with fixed and stable hypertension in the range of 200 mm Hg, as measured by the indirect caudal method electronically, were subjected to daily intraperitoneal injections of the purified lipid. After several days of single injections there was a striking and sustained fall in arterial pressure, which gradually rose to the previous hypertensive levels over a period of several days after discontinuation of the injections.

In concluding, I would like to submit that the kidney may have a dual role in blood pressure control. In the normal situation, the

cortical renin-angiotensin system may be in balance with a medullary vasodepressor system. In renovascular hypertension, where the renin pressor system is activated, the depressor system may be left unbalanced, such that hypertension ensues. In certain destructive, parenchymal lesions, notably pyelonephritis, there could be a loss of the medullary vasodepressor principle, leaving the renin pressor system unbalanced, leading to a hypertensive state. The recent identification of the medullary factor as prostaglandin E_2 -217 by our group and, independently by Dr. James B. Lee of Worcester, Massachusetts, suggests that a systematic exploration of the physiologic and therapeutic implications is at hand, since this and closely related compounds are now capable of biosynthesis. It is not inconceivable that essential hypertension may ensue from a constitutionally determined deficiency of this or a related renal factor.

Finally, I would like to express my appreciation to Dr. Hartwell Harrison for his collaborative help.

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CHECK LIST FOR PHYSICIANS

In selecting your next automobile the AMA has listed safety features that prospective buyers should look for in selecting models. Some of them will be available only as "extras" at extra cost. It is also pointed out that the paint job may be a safety factor. Light colors are more easily seen in the day or night while dark colors blend into a surrounding background making autos practically invisible at night.

- Padded head supports to avoid neck injury.
- Padded dash and visors.
- Recessed dash instruments and control devices.
- Impact-absorbing steering wheels and column displacement.
- Safety door latches and hinges.
- Four-way flasher signals that can be blinked all at once.
- Safety glass all around.
- Glare reduction surfaces
- A dual braking system.
- Back-up lights.
- An outside rearview mirror.
- Devices to cut down noxious exhaust.
- Electric sweep-design windshield wipers and washers.
- Cornering lights to illuminate the area into which the car is turning.
- Seat belt, front and rear and shoulder harness.

MANUFACTURER IDENTIFICATION

- How can you be assured of high quality, purity, and effectiveness in the drugs you prescribe? The integrity of the manufacturer is the most reliable guide. Look to the drug maker whose product is designated by trademark, brand name or other responsible identification of the people who stand behind it.

C. JOSEPH STETLER

Pharmaceutical products, even those with the same principal therapeutic ingredients, differ from manufacturer to manufacturer in terms of quality and formulation, either of which may influence proper therapy.

The member firms of the Pharmaceutical Manufacturers Association (P.M.A.) believe that competition in prescription drug production and distribution, under a system whereby physicians' prescriptions and drug labeling and advertising prominently identify the source of products by company name or product trademark, accelerates the pace of drug discovery, and encourages the highest standards of safety and effectiveness and the most economical medical care.

Modern medical care owes much to pharmaceutical advances. Medical and pharmaceutical scientists have turned one key after another in the search for specific remedies to treat the myriad ills responsible for suffering and premature death. P.M.A. member firms alone have contributed more than \$2 billion-worth of research to this quest since 1945.

Thirty years ago, for instance, there was only a small handful of drugs which would safely cure an infection in man. Today there are many, ranging from the broad-spectrum antibiotics to a compound so selective in its action that its use is restricted to a specific virus infection in the human eye.

Around one billion prescriptions are written by the nation's physicians and dentists every year in the United States. Practically all of the products prescribed and used come from the nation's pharmaceutical manufacturing laboratories. Precise dosage forms and formulations usually identified by trademark or brand name are made available to the physician and are dispensed by a pharmacist to his patient.

Existing standards, controls and enforcement measures contribute importantly to the protection of the public, but they would be inadequate to assure reliability without the incentives and dedication of responsible pharmaceutical companies. Moreover, generic identity of principal drug ingredients is a futile goal, for it does not guarantee uniform therapeutic effect of finished products in all patients.

The proposition that the use of drug trademarks or brand names is in the public interest is based on three principles that are fundamental to the continuance of excellence in drug discovery, production, and therapy. They are:

1. *Therapeutic Control*—The physician responsible for the care of the patient must determine which drug product is needed in each case. Many important and widely used drug products do not have legal standards. Even when drugs are covered by such standards,

Mr. Stetler is President, Pharmaceutical Manufacturers Association.

there are differences among individual formulations of products of different manufacturers which can be significant for some patients. The physician must decide whether therapeutic precision, reliability, or convenience calls for a particular formulation for a given patient, or the extent to which the selection can be delegated to another member of the health team, e.g., the pharmacist.

2. *Reliability of Product*—A physician should be in a position to judge and select products on the basis of his knowledge of the reliability if the product and experience with the past performance of the producer. This method gives added protection to the patient—who should be assured that high standards of quality and reliability are being used in prescribing and dispensing pharmaceutical products for his use—and promotes high standards of production and control that go beyond minimal enforceable levels.

3. *Company Total-Value Product*—The prescription pharmaceutical manufacturing industry is in competition for excellence. Responsible pharmaceutical concerns, under the stimulus of our competitive system commit themselves to expenditures and accomplishments in creative research, reliable production and marketing, and high standards of management. These organizations, who openly and widely identify their products by trademark or brand name, and in so doing identify themselves, are thus motivated to provide excellence in *total quality* of product and service. Such total control of quality of product and service is of significant value to dispensers and consumers of today's prescription medicines, exceeding by far the value of the product's ingredients.

The quality-minded producer who identifies his products and promotes them under unique names or under his company name has an interest in furthering his reputation and his service to a point that goes far beyond any norms that could reasonably be established and enforced as a general system of governmental regulations, even under complete domination of the industry.

Instead of considering ways to place research or production of pharmaceuticals, or any other consume products, under airtight governmental domination we should work toward further perfection of the present balanced and flexible system which is the foundation of the most inventive, productive and quality-conscious pharmaceutical industry in the world. It is clearly in the interest of everyone concerned to keep it that way.

The overall reputation and performance of a company serve as reliable indexes to the quality of its products.

No measures should be instituted that might abridge the physician's prerogative and responsibility to determine the proper therapy and prescribe the type and quality of medication which in his opinion will best serve the needs of his patients.

Patients' physicians, and pharmacists can best be assured of therapeutic control, reliability of product, and the value of total company service when the product is designated by trademark, brand name or other *responsible identification* of the people who stand behind it.

BEWARE CREOSOTE!

A physician, in excellent health, learned to his dismay that using creosote in enclosed areas such as a garage can cause double vision, muscular weakness, paralysis and impediment of speech. After creosoting some fence posts in a poorly ventilated area, he had retired feeling completely well and was hospitalized the next morning for one week. The diagnosis was toxic polioencephalitis—most likely due to creosote intoxication. The lesson to be learned is that creosote, a toxic chemical, can produce severe neurological disturbances when the fumes are inhaled in high concentrations. *JAMA*

THE USE OF LIDOCAINE (XYLOCAINE) IN THE TREATMENT OF CARDIAC ARRHYTHMIAS

- Chemotherapy in the Coronary Care Unit proves of value in decreasing mortality. Lidocaine is a non-toxic readily available drug for quick intravenous use when cardiac ventricular disaster strikes.

CRAWFORD F. BARNETT, JR. MD

Cardiac arrhythmias may arise for many reasons: from cardiomyopathies, during or following cardiac and other surgery, following myocardial infarctions or cardiac arrest, or from unknown causes. The electrocardiogram and the advent of the hospital Intensive Care Unit with oscilloscopic monitoring of cardiac status makes knowledge of these arrhythmias imperative for the present day physician. Of equal, if not greater interest, however, is the treatment of these problems, for without treatment, knowledge of the arrhythmia is only of academic interest and helps the patient not one whit.

Lidocaine (Xylocaine), 2-diethylamine 2', 6', acetoxylide, is a well-known synthetic local anesthetic which recently has been found to be of value in treating cardiac arrhythmias. During the early years, following its synthesis by Lofgren in 1953¹, lidocaine was shown to be very stable, non-irritating and of potent analgesic quality with a rapid onset of action due to rapid diffusion to and through cellular

membranes. It is rapidly removed from the blood stream by the liver, where it is metabolized by amidases to form free and conjugated phenols.² These metabolites, as well as less than 10% of the unchanged lidocaine, are excreted by the kidney.³

The mode of action of the anti-arrhythmic effect of lidocaine appears to be similar to that of procaine, and its longer acting but related compound-procainamide, and quinidine. Ventricular excitability is depressed and the stimulation threshold of the ventricle is increased during diastole. The SA nodal pacemaker, however, is unaffected. The onset of action varies from 45 to 90 seconds and duration of action is 10 to 20 minutes. In contrast to the latter three drugs, lidocaine in therapeutic dosage does NOT produce significant decrease in arterial pressure or in the cardiac contractile force.^{1,4} In larger doses, lidocaine may produce slight circulatory depression, but the magnitude of the change is much less than that found with comparable doses of procainamide.^{1,4} Neither drug appreciably affects the heart rate, the duration of the absolute refractory period, or the QRS com-

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plex.⁵ Reports differ on the effect of large doses of lidocaine on the conduction time. According to some investigators, the conduction time may be slowed,⁵ others indicate that it is unaffected.¹

Although the use of intravenous lidocaine in the treatment of arrhythmias is approved by the Food and Drug Administration only for investigational purposes,² it was used as early as 1950 in the treatment of ventricular fibrillation which occurred during cardiac catheterization.⁶ In 1956 Carden and Steinhous⁷ reported the use of lidocaine to convert electrically and mechanically induced ventricular fibrillation in 90 dogs under normothermia and under hypothermia. They were able to salvage 91% of the dogs. Hitchcock and Keown⁸ found that the prophylactic use of lidocaine before cardiac surgery gave a very marked protection against the induction of arrhythmias by mechanical stimulation. In one of their series, they found the incidence of ventricular fibrillation during aortic commissurotomy was reduced by 50%. Harrison⁵ reported that the use of lidocaine in 12 post-operative cardiac patients (atrial and ventricular septal defect repairs, pulmonary and aortic stenosis relief) was of help in converting bigeminy to normal sinus rhythm. Lidocaine is, in addition, particularly useful when ventricular fibrillation or tachycardia tends to recur following cardiac arrest, either helping to maintain conversion once shock is used or allowing intrinsic conversion. In one of the series, Harrison reported six of twenty-eight patients with ventricular fibrillation converted permanently to normal sinus rhythm after the use of lidocaine intravenously and the other twenty-two maintained conversion for over ten minutes.⁵

The dosage of lidocaine necessary for antiarrhythmic effect has been found to be between 0.5 and 2.0 mg./kg. or about 50 to 100 mg. (1) This dose may be given as often as every 10 to 15 minutes without fear of myocardial depression. Side effects found in overdosage include mild euphoria, muscular twitching, some discomfort in speaking, swallowing and occasionally breathing, blurred vision, and

sensations of heat, cold or numbness.^{2,9} In a study of toxicity of lidocaine given by continuous intravenous drip, doses greater than 750 mgs. per hour in over 2000 patients produced the previously mentioned side effects with high dosage and in three patients with very high dosage produced seizures controllable by moderate doses of barbiturates.¹⁰

Thus the following indications for lidocaine have evolved: 1) preventing or converting mechanically induced arrhythmias during cardiac surgery, and 2) conversion of acute ventricular arrhythmias. Allergy to procaine, procainamide or quinidine is not a contraindication, for there has been found no cross-sensitivity. A relative contraindication to the use of lidocaine, however, is Stokes-Adams syndrome with A-V dissociation and a slow nodal or idioventricular pacemaker, for further slowing of the pacemaker may produce a paradoxical increase in ectopic ventricular activity.

Summary

Lidocaine (Xylocaine) has been shown to be a very effective agent for treatment of cardiac arrhythmias, particularly of ventricular origin. Prior use of lidocaine before cardiac catheterization, electrical defibrillation or cardiac surgery has been found to decrease the incidence of such arrhythmias. In acute cardiac crises the use of lidocaine intravenously has been shown to be of great value in conversion to normal sinus rhythm. Our experience has shown the therapeutic dose to be usually between 0.5 and 2.0 mg./kg. or about 50 to 100 mg.

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PREVENTION OF DEPRESSION IN RELATIVES OF TERMINAL PATIENTS

● An approach to a difficult situation which may tend to help the attending physician attain a mental stance which in itself acts as a form of preventive psychotherapy for relatives of terminal patients.

GREGORY SARMOUSAKIS, M.D.

A not uncommon distressing sequel to the death of a patient with terminal illness is the development of depression in a close relative. It is the purpose of this paper to help physicians utilize some of the insights obtained in the psychotherapy of these relatives in an attempt to prevent or alleviate the severity of these depressions.

The author believes that with some understanding of the usual conflicts involved, the physician in his usual contacts with the relative may influence the relative to handle these conflicts more healthfully without any excessive prolongation of time spent.

It is beyond the scope of this paper to discuss fully the premorbid and diagnostic features of depression and only a few pertinent points will be discussed.¹

First, the obvious, that anyone with a history of depression in the past is a strong candidate for depression in this circumstance. For those relatives without a history of depression there are two general types of predisposing personalities. One is the overly conscientious, perfectionistic person who can never relax and must always be doing some-

thing. The other general personality type which can lead to depression (and other emotional reactions) is the person unable to express a full range of feelings i.e. fear, sadness, affection, love, frustration and anger. Prior to and especially during the terminal illness, premorbid characteristics of inability to ask for affection and comfort coupled with appearances of independence and strength are often apparent. A general orientation in the area of doing things for those close to the relative will be of doing one's duty rather than fulfilling one's own love for them.

After the death, in contrast to a more natural mourning pattern, these relatives will often not allow themselves to cry with their other mourning relatives. They may even bitterly accuse other mourning relatives, who were more open with their hostility towards the now dead patient, of faking. They will often not accept sympathy or condolences but instead will manifest some form of hostility toward themselves.² This may be anywhere on a continuum from frank wishes of self-destruction, self-reproach, preoccupation with somatic complaints, to frank psychosomatic illness.

On investigating the source of the hostility

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so prominent in these relatives, although turned against themselves, it is found that this was originally a hostility towards the deceased which the relative could not consciously acknowledge to himself for various reasons.³

1. In acknowledging this hostility, the relative would also have to acknowledge the fear underlying it and feels unable to cope with it. This fear is often found to be a fear of life itself and of not truly "knowing" that some "aloneness", anxiety, insecurity and fear of personal death are concomitants of being alive.

2. Additionally, the relative may be reacting negatively towards these fears. In this instance there may be an element of the relative's mind continually reacting with "it's not fear" and "it shouldn't happen to me".⁴ This attitude continually produces further unnecessary hostility toward the world and the people in it, specifically in this instance, the dying patient.

3. The relative's pathological conscience may irrationally equate thoughts and feelings of resentment and anger, with actions based on these thoughts and feelings.⁵

4. There may be an irrational and self-centered premise operating that God is "taking away" the dying patient as a punishment for "sinful" thoughts or actions of the relative.⁶ This leads to hostility toward the dying patient because he is the "instrument" of the punishment. (A variant of this premise is that God is granting, as a punishment, a wish of death for the patient, that the relative once had in anger.)

5. In the same self-centered vein, the dying patient may be seen as "leaving" the relative in the same manner that he feared his parent would leave him for being bad. This revives the fear and anger that the relative felt as a child.⁷

6. The dying patient who has not been told he is dying presents a special conflict for the depression prone relative. Here the relative will often feel that the load of

forced cheerfulness and denial of feelings of fear, frustration and sadness in the presence of the dying patient is intolerable. (As do normal people). In reaction to this feeling there is a tendency to "blame" the dying patient for this burden leading to hostility which the relative cannot handle. Secondly, expressions of love, which would tend to counterbalance feelings of hostility, are often suppressed out of fear that these would be a sign to the patient that he is dying.

The following two conflicts especially may act as cause, effect or both in the maze of hostility and fear in these relatives.

7. Although the relative might be able to cope adequately with any one irrational source of hostility, there may be a fear that he will be unable to cope with what appears to be an overwhelming volume of hostile impulses. As a result no attempt is made to deal with any of them.

8. There is often a fear that one is basically and intrinsically unlovable when one is afraid or angry. Knowing that he has these feelings, the relative tends to react with even more frustration and anger.

Any or all of these more common conflicts may be operating in the relative's mind causing unnecessary suffering.

Guidelines

It is the author's contention that with the knowledge of these conflicts the physician will be able to help the depression prone relative in the following ways.⁸

1. The physician himself will feel more comfortable in confronting these relatives since his armamentarium of medical knowledge will be increased in an area where he might be more confused than enlightened by psychiatric terminology. This attitude in itself will help increase rapport and is the opening wedge against depression.

2. When signs of these conflicts are seen in the relative, the physician can directly or indirectly communicate the idea that they

are common and human, based on misunderstanding and fear, and that the relative warrants compassion and understanding.

3. If the relative indicates that he is receiving conflicting advice as to what his feelings and actions should be, the physician is in a much better position to suggest to the relative to whom he should confide and listen.

4. Certainly, the physician can make a firm stand against any "well meaning" friends, hospital personnel or even clergyman who state or imply that these fears are a sign of "weakness". He can also signify that he is in complete disagreement with those who interpret the resultant hostility as meaning that the relative "really" hates the dying patient. This, of course, includes the relative who is accusing himself in this manner. It is probably in this area that, at times, the knowledgeable physician can, with little effort or time, be a critical and decisive force in preventing depression.

5. Outbursts of emotion from these relatives can be seen in some light other than that they are just disturbing hospital routines and perhaps the dying patient himself. Certainly, however, the attending physician should not retreat from his realistic position that his first and primary concern is for the patient who is really dying now.

Warnings

In the author's opinion, it is contraindicated for the physician to be the first to bring up with the relative the subject of latent hostility toward the dying patient.⁹ First, because it is a theory only until the relative produces some evidence. (Close scrutiny of a skilled psychiatrist doing psychotherapy with this type of personality will reveal that he does not make such an interpretation until some signs are given that the relative is close to seeing it himself.)

Secondly, the depression prone relative might easily be pushed into overt depression by such a remark.

Thirdly, to the extent the relative does not

become depressed, the physician himself will almost surely become the object of this hostility. In this event the physician provides a ready and provocative target for the hostility which the relative has not previously been able to justify.

Unprovoked hostility toward the physician also is common and again in the context of this paper it can be seen as an neurotic answer to the relative's perplexing problem with his hostility. He does not have to direct it either towards himself or the patient. (This is an neurotic solution because the hostility is irrationally based and not directed towards its true object.) It is recommended that the physician's general attitude at these times be one of sympathizing with the relative's frustration. If this is not enough to reduce the hostility then the physician should make some attempt to help the relative realize his problem, i.e. "I know that this situation must be very upsetting to you . . . and I don't blame you for wanting to get mad at somebody . . . but you know it's neither your fault nor mine that . . ." It must be emphasized that in this situation the physician should do his utmost to assure that his primary attitude be sympathetic in spite of the natural temptation to defensively retaliate against an impossible relative. Hopefully with this approach the angry relative will burst into tears, will allow himself to be comforted and will think more rationally.

In summary this paper has been a discussion of some of the irrational misunderstandings and fears occurring in depression prone relatives of dying patients. These fears result in irrational hostility which these relatives then turn on themselves. The physician with a knowledge of these common fears is in a position to help prevent decompensation into depression.

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RADIATION THERAPY IN THE TREATMENT OF BURSITIS

- Bursitis or tendonitis is a rather common and sometimes disabling complaint of adult life which responds with varying degrees of completeness to several forms of treatment. Some ideas regarding etiology and some experiences with a program of radiation and physiotherapy are recorded.

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The term "bursitis" is used in a somewhat loose but popular sense to refer to certain painful and disabling conditions of periarticular tissues, primarily tendons, often associated with calcific deposits as demonstrated by roentgenograms.

It is felt that "bursitis" or tendonitis is almost invariably traumatic in origin;^{2,3,10} due to either a single blow or strain or repeated mild traumatic experiences which may be so mild and so much a part of one's daily activity that they go unrecognized as such. To emphasize the role of trauma several examples will be mentioned.

One is the case of an automotive mechanic who had recurrent epicondylitis (tennis elbow) and was found to spend much time removing and replacing cylinder heads which required the manipulation of multiple nuts with a wrench. A man with bilateral epicondylitis had a small farm and a recently acquired heavy one-wheel tractor which required balancing and steadying as well as steering, with both hands.

A case of calcific tendonitis of one greater trochanter was a woman who came to the x-ray department by ambulance with exquisite pain in the hip, thigh and lower leg. There was history of a recent fall but when the roentgenograms revealed only calcific tendonitis she was questioned further and admitted to habitually opening a swinging door at home with her hip.

A young man presented himself with acute tenderness to pressure over the hypothenar eminence of the right hand. X-ray examination revealed calcification overlying the palmar aspect of the pisiform bone. Questioning revealed that the patient had a job in a garage where he changed tires almost every day and it was his custom to replace the hub caps by a blow with the heel of his right hand.

Another patient presented with pain and tenderness localized to one lower thoracic spinous process. X-ray examination revealed overlying calcification in the soft tissues. Questioning disclosed that the patient had backed into a tree some weeks before while stooped over carrying an outboard motor.

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"Bursitis" or tendonitis, as used in this article, is primarily a disease of the 4th decade and older.^{2,7} It is unusual in the 3rd decade and the author is unaware of cases under the age of 30 years. The ravages of wear and tear on the tendons with resultant fraying, tearing and fibrosis seems to be a predisposing factor.² Calcification is often, but not always, present and occurs in those degenerated tissues which, at least in the case of the shoulder, lie in the floor of the overlying bursa. A true bursitis may result when the degenerated tendon or calcification deposit irritates the bursa to the extent that inflammation occurs with varying degrees of effusion. It is difficult to establish with certainty the length of time required for this calcification to occur but it is known that callus about a recent fracture require from 10 to 14 days to become visible by roentgenography.⁹

Bursitis of the Shoulder

In a typical case of "bursitis" of the shoulder, by far the most common site; the patient exhibits an acutely painful shoulder possibly with slight swelling, no redness and marked point tenderness to pressure over the humeral head with limitation of abduction and rotation of the humerus. Pain may be so severe that the arm is held clamped to the side. In subacute and chronic cases the shoulder may not be painful at rest but there is usually localized point tenderness and almost always limitation of motion usually preventing the patient from combing the hair or reaching behind the back. Roentgenographic examination frequently, but not always, reveals calcification in the soft tissues overlying the humeral head. This is most often at the insertion of the supraspinatus tendon into the greater tuberosity but it may occur in the other tendons. When the condition involves the subscapularis tendon, which inserts into the lesser tuberosity, there is a characteristic limitation of motion in which the patient is unable to raise the bent elbow in front of the face with the hand of the involved side on the opposite shoulder. The acute process may or may not subside spontaneously. Often, even after treatment,

when the acute discomfort has diminished, there is found to be limitation of shoulder motion apparently due to adhesions forming between surfaces which normally glide smoothly over one another: bursa, tendons, etc.^{2,4} This condition is known as peritendonitis, pericapsulitis or adhesive bursitis and reaches its maximum development with the so-called "frozen-shoulder" when the patient is able to abduct the humerus only about 30 degrees before the scapula begins to move too seemingly locked to the humerus; a very disabling condition.

Recommended Therapy

Acute "bursitis" may respond to surgical needling or evacuation of the calcific material, to hydrocortisone injection, procaine injection or x-ray therapy. According to some reports in the literature,^{1,6,7} injection of the tender area with anesthetic agent or hydrocortisone or needling the calcific deposit with or without hydrocortisone injection often gives good results in the acute cases but less dramatic results in the more chronic situations. Surgical exploration and evacuation of the calcific material, with the related after-care, is said to yield a higher percentage of good results. The author has had experience only with x-ray therapy and has found that small doses of x-rays, about 100 r in air, delivered through a single small port, 50 to 100 sq. cm., and directed anteriorly over the shoulder, or directly over the area of point tenderness, every day or every second or third day for three or four treatments is usually sufficient to give relief. Sometimes a single treatment completely relieves an acutely painful condition. Occasionally there is a temporary exacerbation of pain coming on several hours after the first or second treatment and very occasionally a patient will be found who responds with exacerbation of pain to every x-ray treatment. With the more subacute and chronic cases of shoulder involvement in which adhesions have formed, physiotherapy in the form of simple, active shoulder exercises becomes a very important adjunct to radiation therapy. In the cases of "frozen shoulder," physiotherapy is the most important part of the treatment. A

successful, though time consuming, method for treating shoulder "bursitis" is to start each case with radiation therapy and complete rest for the involved part. When the acute symptoms have subsided, usually within three or four days, it may be found that all symptoms have disappeared and shoulder motion is normal. However, if limitation of motion persists, physiotherapy is instituted, slowly at first, increasing the range of the exercises as the patient's tolerance allows. Under this management, the patient is usually completely recovered, with a normal range of shoulder motion, in two to three weeks. Occasionally over-zealous exercising or resuming normal activity too early will cause a flare-up of the acute process. Then treatment must be started from the beginning again with rest and radiation therapy.

Bursitis of Other Areas

Physiotherapy seems much less important in the management of "bursitis" of areas other than the shoulder. Epicondylitis is one of the more stubborn and difficult forms to manage by any method. "Bursitis" of the greater trochanter usually responds well to radiation therapy and occurs, in the author's experience, almost entirely in women and as a result of opening swinging doors with the hips. Rest of the part during the period of treatment, with the exception of the shoulder exercises, is logical and has proved beneficial.

The diagnosis of "bursitis" of areas other than the shoulder usually depends on demonstration of point tenderness, pain on specific motions and absence of other conditions, such as fractures, by roentgenograms. Calcific deposits help when they are present. The etiology of shoulder and upper arm pain is often difficult to determine. Unfortunately cervical arthritis occurs in the same age group prone to develop "bursitis" and cervical nerve root irritation may mimic "bursitis," may occur concomitantly with "bursitis" and, in the author's opinion, may predispose or cause "bursitis" by producing pain which leads to splinting and disuse which, in turn, lead to adhesion formation. Although "bursitis" may give pain in the shoulder, upper arm and occasionally in the base of the neck; pain radi-

ating to the elbow or below, pain radiating into the neck; pain on neck motion and point tenderness along the vertebral border of the scapula all suggest cervical nerve root irritation. When there is difficulty differentiating between the two conditions, or when it is felt that the two conditions coexist, it is probably simpler to treat the patient for "bursitis" first and, if unsuccessful, then treat for cervical arthritis.

In the differential diagnosis of shoulder pain, and acute, major rupture of the musculotendinous cuff, most often involving the supraspinatus tendon, is kept in mind as this is often a surgical emergency and x-ray therapy is not indicated. The history is usually that of recent, severe trauma followed by sudden, sharp pain with the examination revealing marked diminution in power to abduct or maintain abduction of the humerus.^{2,8} Small avulsion fractures of the greater tuberosity of the humerus resemble "bursitis" in etiology, clinical signs and, superficially, on the roentgenogram. Treatment as for "bursitis" produces good results if one is prepared to go slowly with the physiotherapy and carry it out for a prolonged period.

Summary

1) The author has recorded some experiences and impressions gained in 15 years of diagnosing and treating "bursitis."

2) It is felt that trauma is the leading etiology factor.

3) One successful form of treatment employs a combination of radiation therapy and physiotherapy.

4) Cervical arthritis may mimic, coexist with and cause "bursitis" of the shoulder.

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Hobbies

THE ROMANCE OF COIN COLLECTING

ALLEN C. WOODEN, M.D.

How often have we as physicians wished to be completely alone within ourselves; to shut out the worries and cares of the work-a-day world. In order to achieve this goal, one must have a deep enough concentration to blot out all extraneous sensations. Being physicians, we are constantly being minutely irritated by the seemingly unrelated mental and physical deviations of our patients whom we pledge ourselves to remedy.

One way I have found to put myself completely at rest mentally is take up one of my hobbies. A hobby should be an activity which can capture your entire enthusiasm, something which can act as the balm which soothes the aching muscles and nerves. The three hobbies I have found to be the most pleasant and relaxing to me have been coin collecting; stamp collecting; and painting in that order. Yes, you may say that these are all sedentary hobbies. I agree, but a competitive hobbies such as tennis or golf often is over-taxing and does not give the mental and physical relaxation the body needs. Since it would be difficult to discuss all three of my hobbies in one short article. I have decided to discuss my favorite.

The hobby is the collection and study of money. A person following this branch of study is properly called a numismatist. It has been my pleasure to be most interested in ancient coins, because each coin I possess, unfolds an era of its own.

These often tiny pieces of metal are both beautiful and historical. This, I believe, is the most obvious attraction for the coin collector.

Each tiny coin is a miniature work of art designed often by an unknown artist with loving care. It is therefore easy to understand the thrill of examining a collection one by one and reflecting on the painstaking work that went into its production. Joined with the art is the intense historical background that surrounds each coin as a part of the remote past.

It is to be remembered that coins are the only remains of past civilization that we can acquire with little expense or exertion. Because of this, there is a special thrill in possessing coins of ancient cultures, especially of Greece and Rome.

Greek coins are rather rare, and hence are usually much more expensive than the Roman. Many of the Greek coins are extremely beautiful, and some authorities feel the greatest expressions of Greek art. The Greeks characteristically associated their coins with religious subjects; and it has been supposed that religious leaders of their temples had an important share in initiating the introduction of money. Every coin which a Greek City State issued, bore upon it a symbol to some deity. Later, a portrait head of a God, especially Zeus, was often represented. The Roman coins are to be admired for the honest frankness of the portraits of the emperors. Rome used the inscription on coins for information purposes, etc. In the absence of modern media of communication, this was a positive way the government could be sure that a great number of people would see the message, by placing it on the official coinage that circulated throughout the empire. It was of primary importance

to bring the features and personality of the *Fathers of the Country* into every home and shop in the empire. The Emperor Augustus began the new currency of Rome. It was based on three metals, gold, silver and brass. These major components in the monetary system were supplemented by bronze issues of provincial governments.

My collection of coins covers a period of history representing almost three thousand years. The earliest in my collection is a bronze piece from Lydia, a Greek City State, dated approximately 500 BC with a head of a bull on obverse and incuse squares on the reverse. After this coin there are representative pieces of most of the City States of Greece. The next series of coins are of the empire left by Alexander the Great to his generals, especially Ptolemy 1 of Egypt and Antiochus 1, in Syria. Following this, there was a long series of Roman coins.

All Gaul . . .

The coinage of Rome may be roughly divided into three periods. The period of the Republic is represented by a bronze coin known as Aes, of reduced size, and the Semis. The second half of the Republic period is represented by silver denari and also silver denari of the family coin series. These are called family coins because the name of the moneyer or person who issues the coin, has his family name placed on the coin. The next period of Roman History is known as the Civil War era and is represented by coins of Pompey, Julius Caesar, Brutus and Marc Antony. The next series is a long one, the Roman Empire, and starts with the coin of Octavius, who later assumed the purple as August the First Emperor of Rome, and ends

with Constantine the Great, the founder of the Eastern Roman Empire, which later became the Byzantine Empire.

Historically speaking, there are coins which commemorate the founding of Rome, as represented by the statue of "Suckling Wolf" on coins of many periods. On coins of Phillip 1, (244-249 AD), the thousandth anniversary of Rome is represented by an antelope on the reverse of coins with the inscription "Saeculares Augg". In translation, this means the "Holy Secular Games of the Augusti", a reference that commemorates the Public Games with exhibition of animals. The first Christian symbols appear on Roman coins such as Phi-Chi, especially clear on the coin of Magneutius. (350-353 AD). The reverse of this coin has the inscription *Fel Temp. Reparation*, which means in translation, "Restorer of Good Times". This is a very minor sampling of money and many of the stories and legends found on coins in my collection.

The joys connected with this hobby are not limited to going to a coin dealer, handing over a set amount of money, and receiving a completely identified coin. The thrill is to buy a group of old tarnished and corroded coins for a small price, engage in the hard task of removing the grime of centuries, and then by hard work, completely decipher the inscription, identify the coin, and ascertain that it is genuine. By studying the historical connection, you realize the true position of this unique antique in time.

I sincerely hope that some of you will take up this interesting hobby and share with me the joy of the amateur archeologist, the art critic, the historian, or perhaps just an antique collector, as suits your fancy.

HELP WANTED

The Delaware Congress of Parents and Teachers has asked all physicians to get on the bandwagon to help curb smoking in teenage children. It does not feel that the continuous program carried on by the Interagency Council in Delaware or the campaign for the parents of 7th and 8th graders is enough. It asks that a personal physician to a child or his family, each doctor must realize that he may be one person who will most influence the child's decision to smoke or not to smoke. Statistics state that 4,500 children a day are starting to smoke and half the nation's teenagers will be regular smokers by 18. *Jane H. Frelick, Health Chairman, Delaware State PTA.*



President's Page

THE NATURE OF A PHYSICIAN

In this era of socio-economic and political turbulence, where the vernacular is replete with such items as Medicare, utilization committees, prevailing fees and the rising cost of medical care, it would seem presumptuous for my initial offering to be a philosophical homily. However, as the President's page is for the specific purpose of reflecting his thoughts and opinions, I shall take that privilege.

In the days before the Industrial Revolution demanded quantitative production and strict accounting of wages and hours, a man had the leisure to take pride in his quality production. In those days, too, men thought long thoughts and wrote down those thoughts in a developed philosophy.

They noticed that a certain measure of respect and admiration for the body, as a marvellously fashioned and beautifully functioning specimen of animal life, was possible even on the part of an agnostic or atheistic physician.

Men were observed to be subject to negative influences: one of these being poor health, either temporary or chronic. Those who wrote from a theological background expected this manifestation to result from the doctrine of original sin. Those who wrote from a positivistic background saw illness to be a reduction in man's happiness and capability. That this reduction should be eradicated became their goal. Previous to Newton, the

principle of "*to every action there is an equal and opposite reaction*" was focused on this fact of human existence. Thus were born the variant medical approaches to illness, whether contagious or degenerative.

So, within the framework of this creation, humans were found to fight against human diseases. In the philosopher's jargon, this was evidence of the physician's "nature," meaning the source of action. It wasn't motivation, it was an essence within him. It was what made him be what he was.

Now he demonstrated *that* "nature" through his personality . . . again a word which is part of the philosopher's vocabulary. That, which made *this* physician to act in *this* way as opposed to how another one might act, was his "personality." His temperament, of course, was his speed of reaction.

So was developed the philosophy of a physician: one who, for whatever motivation, expressed his nature, through his personality, and timed by his temperament and his nature, inclined him to aid his fellow man to live at that level of satisfactory functioning which would yield pleasure and achievement.

A note of appreciation must be added as a tribute to my predecessor, Andrew Gehret for his leadership during the past year. The members of the Medical Society of Delaware recognize that it was a year of decisions. Dr. Gehret has earned our greatitute by his dedication to the job.

H. Thomas Mc Guire



Delaware Academy of General Practice

PSYCHIATRY AND GENERAL MEDICINE

Family medicine has long been recognized as the bulwark of medical care in the United States. General problems of any medical nature were the domain of the General Practitioner. Medical, surgical or obstetrical—in any emergency—he was called upon to render immediate assistance. In today's more complex medical community, the family physician is still an important cog in diagnosis and treatment; but he now must assume another role, and this is of paramount importance.

The ability to recognize insidious emotional disturbances in the family circle requires a new skill that few family physicians were taught in their academic years. The decline in the marriageable age, the increase in progeny, and now the complexity of birth control and family planning have thrown an added burden on the young married couples. Most of these problems fall in the lap of the family physician. Recognizing that formal, academic refresher courses in psychology and psychiatry are beyond the hope of practicing physicians, the National Institute of Mental Health has set up a program of Medical School sponsored and directed courses in psychiatry for the doctor in general medicine. These courses are paid for from Governmental funds and are conducted in the country or city which shows the most need for them, and where physicians are able to meet with little time loss from active practice.

The Delaware Academy of General Practice has been recipient of three such courses in the past few years, and we are now in the process of setting up a new course period to cover approximately seven years. These sessions are weekly round table forums—moderated by a member of the Medical School staff or a local practicing Psychiatrist. The students number about six to eight family physicians. Each week a different student presents a case for discussion usually—from his own practice. After obtaining a detailed history from the patient, the other physicians

ask relevant questions and the patient is then excused. There follows more direct and detailed psychiatric evaluation of the problem by the group, and the moderator guides and directs the mode of therapy.

The problems that have been discussed are many—and the solutions just as numerous. Usually, these problems fit a particular physician's mode of practice and strata of society. Yet, the variety of solutions points up the seriousness of the mental health of many people in the community. But these are our patients, and they are seeking help which in many instances requires expert guidance to prevent further trouble. As I intimated before, training courses such as these were not given when most of us were in Medical School, and, alas, the supply of instructors available to teach and the hours a family physician can steal away from a busy daily practice are both woefully inadequate.

Education and more education has always been the backbone of the American Academy of General Practice. This has encompassed all branches of medicine, for in many remote parts of America physicians include obstetrics, surgery, radiology, pathology, psychiatry, etc., along with their general medicine and pediatrics.

The Mental Health Association and the AAGP have jointly sponsored national, regional and state conferences to further the medical awareness of this rapidly expanding illness. Even so, adequate therapy lags far behind astute diagnosis.

Here in Delaware, our program is beyond the pilot stage. As an old artilleryman might say—*We are ready to 'fire for effect.'* Constructive help is always appreciated and we could think of nothing finer than to expand the scope, attendance and duration of our program.

Henri F. Wendel, M.D.

Editorials

THIN ICE

The Millis Report, often called the second Flexnor Report, has recently been published, and the preliminary press release suggests that the internship should be stopped.

A special commission of the AMA, called the Citizen's Commission on Graduate Medical Education headed by John S. Millis, President of Western Reserve University had been given the task of re-evaluating the internship and the residency training program in this country. Their conclusions are startling and provocative, if not worrisome. The report emphasizes the need for comprehensive medical care and suggests that a new type of medical residency be created to train comprehensive family physicians.

The Commission envisions this master physician to be an internist, pediatrician and a non-operative gynecologist all rolled into one. He would be a peer to the sub-specialist, who because of his narrow talents, would be called in by the family physician when he felt need for special assistance. In order to lift the new specialist above old prejudices, the commission has suggested that he be called a *Primary Physician*. This name stems from the fact that he will be the first contact for the patient and be prepared to give comprehensive care, quarterbacking the patient through complex illnesses and using specialists as he needs along the way, but always staying in control.

In some ways all of this makes reasonable sense. The Commission is concerned with rapid growth in subspecialty medicine and the rapidly vanishing general practitioner. Sensing that the pendulum has swung too far the Commission realizes that the average patient needs good and enlightened medical care—not a row of ultra-specialists, each taking care of his small field but none taking total charge of the patient. The Commission

sees the need for a comprehensive physician, who is multi-talented and has set about to make this an attractive specialty of medicine. Worried about the continuing education of this *Primary Physician*, the Commission suggests that he would function and survive best if situated in a group-type practice. Here the team would be right at hand, and because of the multiple disciplines of the group, it would function as its own unit of continuing education.

The Commission points out that there are an increasing number of M.D.'s taking residency training each year, and a decreasing number going into general practice. From this, it concludes that residency training is necessary in order to practice modern medicine, and it is here that your editor disagrees.

As background for its recommendations of stopping the internship, the report points out that one of the present difficulties with the educational system is that it is divided into three uncoordinated parts (medical school, internship, residency.) Each part is totally unrelated to the others, so that there is no smooth transition of planned education from one part to the other. Indeed, it points out that in many cases internships and residency programs vary so much from one part of the country to another, that it is difficult to find any continuing thread or overall planning in our educational system at this time.

With this as background and convinced that residency training is necessary for all physicians, the Commission recommends in this report that the internship be discontinued. This, it points out, would have several beneficial effects, not the least of which would be to reduce medical education to two phases (medical school and residency). This it hopes will make it easier to standardize educational programs in the future.

The Commission suggests that all physicians would go straight from medical school into a residency program. The internship program would then be incorporated as part of a specialty-residency training. Rotating internships would cease to exist. If this were possible it would cut out one year of training. However, this assumes that the residency program would not be lengthened in order to incorporate the internship.

The string on a neat package begins to loosen when one realizes that this automatically makes every physician go through a residency program, thus prolonging the education for a general practitioner. The assumption is that giving the general practitioner extensive residency training will suddenly make general practice a sought after specialty that is able to give comprehensive care to all patients. That this will attract young men into general practice seems a little hollow. There is little question that if this

were to occur, it would be a step forward. I must point out, however, that this entire thesis is made on many sweeping assumptions, and I suggest that some of these assumptions are on very thin ice.

General practitioners have been giving comprehensive care through complex illnesses for many years. It is true that we need more of them, but it is difficult for me to believe that two or three years of additional training will make the basic job of taking care of people that much easier. Nor will it increase their proficiency proportionately. Furthermore, if two years of residency training is needed now, one can expect that four years will be needed by 1980. However, the job will still be the same. For a general practice by any other name will eventually be rediscovered to be general practice. Surely there must be some way to attract doctors into this field, other than by increasing the time it takes to get there and by changing the label.

CODE PRINTING FOR CAPSULES

A new system called *Identi-Code*, consisting of a combination of one letter and two figures which specify the form of the medication and its name and formula has been developed by the Eli Lilly Company for quick and positive identification of the product and its exact formula. The uses of *Identi-Code* are many, such as 1) A patient suffering from a chronic condition who decides to extend a visit with relatives and finds he hasn't brought enough "tablets" with him, can now go to any physician, give the code number of the tablets and the physician can prescribe the medication he has been taking. 2) It will provide quick identification and permit prompt prescription of an antidote in an emergency where drugs are taken either by children or indiscriminately.

FOR THE PATIENT

A new, illustrated National Heart Institute leaflet, issued by the PHS, *Hardening of the Arteries—Cause of Heart Attacks*, may be useful for the physician's waiting room. It describes what an artery is, how it hardens, trouble spots resulting from this condition, what a heart attack is and how it happens. Single free copies are available upon request. Multiple copies at \$6.75 per 100 may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

In Brief

In The News

Four Society members were inducted as new Fellows of the American College of Surgeons at the annual Clinical Congress held in San Francisco this month. Entitled to the designation *F.A.C.S.* following their names are: James M. Chase, Jr. and James R. McNinch, Dover; George N. Eriksen, Jr. and L. Mario Garcia, Wilmington.

Speakers On "Doctor's House Call"

Speakers for November on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Oct. 25: William D. Shellenberger, M.D., *School Health*; Nov. 1: Joyce Anderson, *Diabetes*; Nov. 8: David Platt, M.D., *The Vanishing House Call*; Nov. 15: William T. Hall, M.D., *Diabetes*; Nov. 22: Frank O'Brien, M.D., to be announced; Nov. 29: Yvonne Russell, M.D., *Services for Handicapped Children*.

Washington Report

A new minimum wage law will bring about 1.5 million workers in hospitals and nursing homes under the Federal Minimum Wage Program for the first time. This is expected to raise hospital and nursing home costs.

Senate Democratic Leader Mike Mansfield said he believed the HEW was going too fast in enforcing racial desegregation of southern hospitals and schools. Although he supported the Senate's denial of \$500,000 sought by HEW to pay civil rights investigators, he said the Senate wants to see desegregation handled carefully rather than impulsively.

The Senate approved legislation that would give nursing homes more liberal payment for Medicare patients. The existing Federal reimbursement formula is 2% above operating costs which nursing home operators contend is too low.

The Government will watch carefully to determine whether patients are admitted unnecessarily to hospitals next year in order to qualify them for Medicare's nursing home benefits. At the present time this is only available to beneficiaries who have had a hospital stay of three days or more or when the nursing home care is considered an extension of the hospital treatment.

A pilot study of mal-lesions—to evaluate exfoliative oral cytology—among patients in six PHS hospitals and out-patient clinics uncovered 24 cases of cancer and has led to an extensive detection program. Each examination consists of a careful inspection of mal-tissue and the taking of a cytological smear of all lesions discovered in a patient, except those of benign nature, that are plainly related to gum diseases. Any lesion showing abnormal cells is subjected to biopsy and microscopic examination to determine if it is malignant.

Out-Patient Services Committee Program

The last three meetings of the Wilmington Medical Center's Committee for Out-Patient Services are listed below. The Committee meets weekly at 9:30 a.m., Executive Offices of the Wilmington Medical Center, Nurses' Residence, Delaware Division:

Nov. 2, 1966	26. Preparation of a Report
Nov. 9, 1966	27. Preparation of a Report
Nov. 16, 1966	28. Presentation of the Final Report

Subsequent Meetings at the Call of the Chairman

Legislative Roundup

The House Ways and Means Committee approved H.R. 18225 which would amend Title XIX of the Social Security Act. Effective January 1, 1967, the bill would permit states to purchase part B insurance for the medically needy aged with the state paying the \$3 premium without Federal financial participation. States wishing to avail themselves of this program would have to enter into an agreement prior to January 1, 1968. The bill would eliminate the requirement in existing law that medical care and services available to persons *over* 65 would have to be equal in amount, duration and scope as that for persons *under* 65.

Aspects Of School Health

A book entitled: *Report of the Committee on School Health of the American Academy of Pediatrics* has been released to provide physicians with an understanding of the procedures and philosophy of school health programs and an awareness of their responsibilities and opportunities in the areas of school health. Subjects covered include the physician's function in school health appraisal programs, school health as related to adolescents and handicapped children, school failure, attendance problems, sports medicine, management of emergencies, health of school personnel, health education for school children, and education of physicians in school health. Single copies of the publication may be obtained from the Academy for \$2.00 each.

Medical Student Figures

Figures released by the Association of American Medical Colleges show that there were 88 U.S. schools of medicine (including 3 schools offering 2-year programs) in 1965, medical school enrollment reached 32,428, a 53% increase over medical student enrollment in 1940. The annual number of medical graduates totaled 7,409 in 1965 an increase of 45% over 1940. At the present time the creation of 15 new medical schools seems certain since responsible institutions have publicly announced decisions for their establishment and taken such steps as determining sites and appointing deans. Twelve of the new schools will provide the full four-year medical curriculum and 3 plan to use a form of curriculum that will not include the clinical years of education.

Mental Resistance To Influenza

Some people have mental resistance which helps fight off the flu after infection, while others become ill because they are psychologically vulnerable, according to a report by the AMA. When physicians tested 480 men at the Army Biological Laboratory, Fort Detrick, Md., they found 96 who could be classified psychologically vulnerable, another 78 who were termed "intermediates;" the other 306 were "non-vulnerable." When an outbreak of Asian influenza struck, the "vulnerable" men reported illness almost 2½ times as frequently as the "non-vulnerable." Flu vaccinations proved ineffective in this instance and did not affect results of the survey. Infection rates were the same among vaccinated and unvaccinated men.

CLINICAL NOTICES AND MEETINGS

Radio Seminar Curriculum

The Radio Seminars conducted by the Pennsylvania Hospital in Philadelphia will be continued this year starting October 11, and ending April 13, 1967. They will be held at Memorial Hospital every Tuesday at 12:00 noon with lunch being served. The course is approved for 24 Credit Hours by the AAGP. Sydney Stat, M.D., will be moderator.

November 1, 3: *Abuse of Tranquilizers*, James R. Harris, M.D., Physician to Pennsylvania Hospital (Psychiatry)

November 8, 10: *Pelvic Pain*, S. Leon Israel, M.D. Director Division of Obstetrics and Gynecology, Pennsylvania Hospital.

November 15, 17: *Complications of Myocardial Infarction*, Joseph B. Vander Veer, M.D., Chief, Cardiovascular Section, Pennsylvania Hospital.

November 29: *Myxedema*, Edward Rose, M.D., Professor of Clinical Medicine, School of Medicine, University of Pennsylvania.

American College Of Physicians

The ACP will sponsor a 5-day post-graduate course on *Progress in Gastroenterology*, in Philadelphia, Nov. 28 through Dec. 2. The course will be held in the Auditorium of the Annenberg School of Communication, University of Pennsylvania.

The ACP will hold a regional meeting Dec. 1 for Internists in Eastern Pennsylvania at the University Museum in Philadelphia. The Seminar serves to keep college members abreast of developments in the basic sciences and clinical medicine.

Pediatric Lecture

Childhood Diseases of Viral Etiology; Recent Advances and Future Perspectives is the title of a lecture to be given by Albert V. Sabin, M.D., distinguished professor of research pediatrics at the University of Cincinnati. It will be held on Nov. 29 at 4:00 p.m. in Alumni Hall, New York University School of Medicine, 550 First Avenue, New York City.

PG Course Hahnemann

Current Post Graduate Education Courses sponsored by Department of Medicine, Hahneman Medical College and Hospital:

Nov. 11, 1966, Coronary Arteriography (sponsored with American College of Cardiology); Dec. 5-7, 1966, Theory and Application of Gas Chromatography in Industry and Medicine.

AMWA Scientific Symposium

When women physicians convene in Washington, D.C., Nov. 2-5, for the annual meeting of the American Medical Women's Association, *Sexual Problems in Medical Practice*, will be the subject of the session.

Medical Chiefs

The Annual Meeting of the Association of Military Surgeons of the U.S. will be held Nov. 7-9 at the Washington Hilton Hotel, Washington, D.C. Registration begins Sunday, Nov. 6.

AMA Clinical Convention

The AMA is looking forward to seeing member physicians in Las Vegas this November. The 20th Clinical Convention will be held Nov. 27-30, 1966 in Las Vegas. For advance registration write: Circulation and Records Department, AMA, 535 North Dearborn St., Chicago, Ill. 60610. For information on hotel reservations write to the AMA Housing Bureau, Convention Center, Paradise Road, Las Vegas, Nevada.

Auxiliary Affairs

MESSAGE FROM THE PRESIDENT

As we enter another Auxiliary year with our new program so well initiated, I feel that we should voice our appreciation to our immediate past president, Mrs. John W. Barnhart, for her able direction. Our aim is to be of service to our husbands and to assist them in health-oriented projects and programs that will best serve our community. Let us all contribute our best to make this coming year another outstanding one.

OFFICERS, 1966-1967

President, Mrs. John Howard, 3 Madelyn Avenue, Wilmington, Del. 19803.

President-Elect, Mrs. Harold Laggner, 117 W. Commerce Street, Smyrna, Del. 19977.

Secretary, Mrs. Ignatius Tikellis, 19 Perth Drive, Perth, Wilmington, Del. 19803.

Treasurer, Mrs. Edward O'Donnell, 109 Norris Road, Alopocas, Wilmington, Del. 19803.

Corresponding Secretary, Mrs. John Levinson, 1708 Talley Road, Forest Hills Park, Wilmington, Del. 19803.

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Mrs. Allston Morris, (2 yrs.), 2005 Veale Road, Wilmington, Del. 19803.

Mrs. Charles M. Moyer, (2 yrs.), Central Avenue & 6th, Laurel, Del.

Mrs. John Alden, (1 yr.), 513 Falkirk Road, Woodbrook, Wilmington, Del. 19803.

Mrs. J. J. Lazzeri, (1 yr.), 33 Lake Drive, Smyrna, Del. 19977.

Mrs. John Barnhart, (1 yr.), 2218 Gilpin Avenue, Wilmington, Del. 19806.

CHAIRMEN

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AMA-ERF—Mrs. James McNinch, Fox Hall Road, Dover, Del. 19901.

Health Careers—Mrs. Dewey Nelson, 206 Spring Valley Road, Star Route, Mt. Cuba, Wilmington, Del. 19807.

Legislation—Mrs. Thomas McGuire, 212

Delaware Street, New Castle, Del. 19720.

Membership—Mrs. Barrett Heckler, 2625 Longwood Drive, Foulk Woods, Wilmington, Del. 19803.

Mental Health—Mrs. L. L. Fitchett, 415 Kings Highway, Milford, Del. 19963.

Archives—Mrs. Gerald Savage, 1602 Talley Road Forest Hills Park, Wilmington, Del. 19803.

Disaster Preparedness—Mrs. Robert Frelick, 1702 Bedford Road, Deerhurst, Wilmington, Del. 19803.

Program—Mrs. I. Lewis Chipman, 26 Westover Circle, Westover Hills, Wilmington, Del. 19807.

Publicity—Mrs. Maynard Mires, 555 N. State Street, Dover, Del. 19901.

Revisions—Mrs. Edward Dennis, 100 South Queen Street, Dover, Del. 19901.

Parliamentarian—Mrs. Douglas Gay, Ewart Road, Gay Echo Farms, Hockessin, Del. 19707.

Finance—Mrs. Emerson Gledhill, Burnt Mill Road, Chadds Ford, Penna. 19317.

Special Reporter to Delaware Medical Journal—Mrs. Park Huntington, 1701 Gunning Drive, Forest Hills Park, Wilmington, Del. 19803.

COUNTY PRESIDENTS

Kent—Mrs. W. A. Leitzinger, 838 Monroe Terrace, Dover, Del. 19901.

New Castle—Mrs. Christos Papastavaros, 100 Augustine Cut-Off, Wilmington, Del. 19803.

Sussex—Mrs. A. M. Devenis, Chestnut Knoll, Milford, Del. 19963.

PLANNING FOR THE MENTALLY RETARDED

- Mental retardation may be a symptom of many different conditions. Effective planning must involve many agencies and a variety of professions if necessary facilities and services are to be provided. The Interagency Committee on Mental Retardation proposes the development of community facilities in Delaware.

MARLIN H. ROLL, Ph.D.

Advances in medical knowledge have resulted in prolonged life for many who will not function normally, and there is increasing awareness of the need for medical and nursing facilities for the various groups requiring prolonged care and assistance. With our increasing understanding of the etiological factors involved in mental retardation, it has become more and more apparent that "mental retardation" is a descriptive term which has limited utility as symptomological concept, and should not be considered as a diagnostic classification which serves as the basis for medical, social, and educational planning.

As we review the services and facilities for the mentally retarded in Delaware, it is imperative that we view the problem in relation to the total needs of the state and the community.

With the assistance of a U.S.P.H.S. grant, the Mental Retardation Planning Project for

the State of Delaware, as originally conceived, completed its work on December 31, 1965, with the publication of a Report¹ containing a number of recommendations for improvement and expansion of services and facilities. Axiomatically, a plan which is effective is one which results in action designed to produce solutions to the problems at hand. Unless action is a result of—some would say a part of—planning, the planning process might actually serve as a deterrent to program development, providing an excuse for delays.

To ensure that the efforts of the Planning Committee to date were "a prelude to action rather than planning for the sake of planning",² the Governor has established the Interagency Committee on Mental Retardation, which is committed to continue planning, implementation and coordination of services to meet the needs of the mentally retarded in Delaware and to develop and operate demonstration projects. The Department of Health, Education and Welfare is providing the major share of the funds for the project.

Dr. Roll is Project Director, Interagency Committee on Mental Retardation, Office of the Governor.

While a "master plan" is helpful, effective program development is contingent on concurrent planning and action, a slow process which requires a determination of priorities, availability of resources, and the support of many groups and agencies. Effective implementation will result in additional facilities which provide for improved services or services not previously available. The plan cannot be implemented immediately or *in toto*, so a step-by-step, imaginative but practical approach to program additions and modifications is contemplated, and a continuing appraisal, refinement and revision of the master plan to be expected.

Recommendations

The establishment of an inter-agency committee represents implementation of the first recommendation of the planning project, and makes possible a continuation of efforts to provide a full range of services to meet existing needs. The committee has employed a Project Director, and the participating agencies have assigned personnel to work with the Director as members of the working staff.

"Expansion and Extension of Clinical Services" was another recommendation of the planning project which is in the process of implementation. The State Dep't of Health is working with the Child Diagnostic and Development Center of Delaware, Inc., to secure Children's Bureau funds to support diagnostic services, and other sources of support are being investigated to determine the feasibility of extending services to other areas of the state, and to age groups not currently eligible for such services. Techniques of improving coordination between agencies and facilities which provide identification and case-finding services, diagnostic and counseling services, and long range planning services are being discussed.

Foster home care and small group living centers are feasible alternatives to hospitalization for those individuals who do not require daily medical and nursing attention, particularly if they could be developed concurrently with day activity centers, expanded day care

centers, or home maker services. The committee and staff are currently working to clarify program and fiscal responsibility, as well as funding patterns, which are inevitable considerations when a departure from existing administrative organization is proposed. For example, there are approximately 160 identified young mentally retarded persons who have completed public school special education programs, are living at home, and have been evaluated at the Opportunity Center and found to be unable to continue in a sheltered workshop situation as productive employees. This group represents a larger number who cannot remain forever in their own homes, who *can* remain in the community if an activity program is provided, and residential facilities made available when necessary. This group does not need hospitalization and will, for the most part, tend to deteriorate in functional skills if not exposed to continuous social stimulation. An effective program for them should represent a coordinated cooperative effort.

There are many other examples of the need for imaginative efforts to improve facilities and services for the mentally retarded, but all are contingent on the success of efforts to involve all concerned public and private agencies and professional groups. Successful coordinated, cooperative efforts are dependent on adequate communication between those concerned, and it is highly probable that Delaware can develop a model program, since its size does enhance the possibility of effective communication.

The Term "Retarded"

In all discussions of facilities for the mentally retarded, however, we find a continuing awareness of the difficulties resulting from consideration of the retarded as a discrete, identifiable, homogeneous group. Persons who are retarded need a number of different kinds of facilities, and when any specific service or facility is discussed, it is recognized that there are numbers of persons who are not considered retarded whose needs are similar. Perhaps we have reached a stage of sufficient sophistication that the retarded can be integrated into community services, a concept which has been

advocated theoretically for many years, but rarely implemented.

Consider for example, the severely retarded patient who is bedridden. It is apparent that he is not bed-ridden as a result of mental retardation, which is merely *one* symptom of the basic, primary diagnosis. The patient may be hydrocephalic, or suffer from a severe cerebral palsy or other cerebral defect, or from a severe manifestation of a metabolic disorder. Is it logical, because the medical condition was present from birth and prohibited normal intellectual growth, to consider the care needs as different from other medical cases whose ability to function and develop was interrupted at a later period? Would it not be more logical to plan for such cases on the basis of the type of care needed rather than to persist in the consideration of the label "mental retardation" or "mental deficiency" as a peculiar diagnostic entity?

We need to recognize that there are increasing numbers of patients who need long term medical and nursing care, and that whether or not these persons are considered mentally retarded is determined largely by the

time of onset of the condition, and frequently does not affect the nature of need for care services. The Interagency Committee believes it would be desirable to plan for long-term hospital and nursing facilities close to and affiliated with existing medical centers and easily accessible to all the medical and paramedical specialists for the group of patients whose illness dates from the early developmental period, but whose needs are similar to those who suffered cerebral-vascular accidents, trauma or disease later in life. The need to overcome the limitations of conceptualization imposed by tradition is nowhere more evident than here. Can these administrative barriers be overcome in the interest of finding an economically feasible, professionally sound solution to the problem of an increasing number of dependent persons? This is the challenge faced by those involved in the planning and implementation project. With continued communication and cooperation, perhaps Delaware can demonstrate a unique and meaningful approach.

REFERENCES

1. *Report of the Delaware Mental Retardation Planning Project*, Delaware Commission on Children and Youth, Wilmington, Delaware, 1965.
2. "The Dynamics of Long Range Planning and Forecasting": Samad, Isa A., M.D., *Delaware Medical Journal* Vol. 37, 1965, pp. 261-264.

NEW PRESIDENT OF MEDICAL COUNCIL OF DELAWARE INSTALLED

The Medical Council of Delaware and the State Board of Medical Examiners bid a fond farewell to Chancellor William Duffy who was elevated to Chancellor from President Judge of the Superior Court, thereby automatically relieving him as President of the Medical Council. His successor, Judge Albert J. Stiftel is being presented the President's gavel by Chancellor Duffy.



SUBICTERUS FOLLOWING THE ADMINISTRATION OF THIORIDAZINE AND CHLORDIAZEPOXIDE

- Circumstantial evidence is accumulating to the effect that thioridazine and chlordiazepoxide, like other tranquilizing drugs, might on occasion impair liver function. Recent literature is reviewed and a case reported.

RICHARD WINKELMAYER, M.D.

The literature on side effects of psychotropic drugs is voluminous. Hollister^{1,2} gives twenty-two references in the first and ten in the second of two recent synoptic articles on this subject. In his 1966 paper he writes: "Allergic Reactions.—These include the hepatocanicular jaundice produced by most phenothiazines and by the tricyclic antidepressants. The prevalence seems to be declining steadily, however; the latest estimate was 0.5%, but it now seems that it is even less common. Most cases of jaundice occurring within the first four to five weeks of treatment are completely benign, but perhaps one in a hundred results in the development of xanthomatous biliary cirrhosis."

Goldman³ states that thioridazine (Mellaril) and chlordiazepoxide (Librium) have never caused hepatic side effects. Hollister implicates "most phenothiazines", but he does not mention thioridazine explicitly; chlordiazepoxide not even implicitly, as it is neither a phenothiazine nor a tricyclic antidepressant.

In 1961 Cacioppo and Merlis⁴ reported development of jaundice, without subjective symptoms, after five days of treatment with chlordiazepoxide 25 mg b.i.d. Their patient, an epileptic, had concomitantly been on diphenylhydantoin sodium and phenobarbital. In 1965 Abbruzzese and Swanson⁵ described a man who was started on chlordiazepoxide 25 mg daily when he was treated for an undiagnosed fever with chest pain and left costo-vertebral-angle tenderness. He also had received sulfisoxazole for two days only, just prior to the beginning of treatment with chlordiazepoxide. After thirty-five days on chlordiazepoxide, he developed jaundice. The authors felt that histologic evidence from a needle biopsy of the liver supported their conclusion that chlordiazepoxide appears to be a potentially icterogenic drug.

Reinhart et al⁶ have published evidence suggestive of hepatotoxicity concomitant with the use of thioridazine in three cases.

We feel compelled to report a case who developed slight jaundice while being treated with thioridazine and had a more marked recurrence of it while on chlordiazepoxide, in

Dr. Winkelmayer is Director of Research and Training, Delaware State Hospital, New Castle, Delaware; Instructor in Psychiatry, Jefferson Medical College, Phila.

spite of the fact that we are not able to give any proof of a causal relationship between the administration of these drugs and the jaundice. This lack of a definite proof does not prevent us from doubting the validity of the word "never" in relation to hepatic side effects of these two drugs.

Case:

A thirty-five year old white man was admitted to the New Jersey State Hospital, Marlboro, with a history of persecutory delusions and auditory hallucinations of several months' duration. He was confused, and thought that people could read his mind. Physical examination at the time of admission was unremarkable except for obesity. For the first eight days, the patient received chlorpromazine 50 mg b.i.d. On the ninth hospital day, he was transferred to another service and at the same time his medication was changed to fluphenazine 5 mg t.i.d. He also was started on E.C.T. and received fifteen treatments, which were followed by a remission of his symptoms. After three months in the hospital, he could be released on convalescent leave, from which he returned after twenty days, again having auditory hallucinations, inappropriate affect, and marked suspiciousness. After his return to the hospital, he received chlordiazepoxide 25 mg t.i.d. for five days. Then he was transferred to another ward, his medication was changed to thioridazine 100 mg t.i.d., and he received six more E.C.T. His symptoms disappeared, he made a good adjustment, and showed an amnesia for most of his previous psychotic ideation; but at the same time, twenty-four days after he had been placed on thioridazine, a slight yellow discoloration of his sclerae was noticed. Thioridazine was discontinued.

Icteric Index

Icteric index at this time was 9.5 units,* cephalin flocculation negative in twenty-four as well as in forty-eight hours; c.b.c.: 5,300,000 R.B.C., M.C.H. 31, Hgb. 16.2 gms, 6,450 w.b.c., diff: 1% eosinophiles, 67% segs., 32% lymphocytes. As the patient did not show any symptoms of psychosis at that time, he

was again placed on convalescent leave, without any medication, and periodically his liver function was checked. Three weeks after detection of jaundice, his icteric index was 10.7 units, direct bilirubin 0.2 mg%, indirect bilirubin 0.43 mg%,** S.G.O.T. 38 units, S.G.P.T. 25 units; cephalin flocculation remained negative. Another three weeks later, thymol turbidity 1.2 units, S.G.P.T. 37 units, C.B.C.: 5,510,000 R.B.C., M.C.H. 29, Hgb. 16.0 gms, 10,050 W.B.C., diff: 72% segs., 28 lymphs.; cephalin flocculation negative.

Laboratory Results

Ten weeks after the initial detection of the icterus, the icteric index was still 10.7 units, S.G.O.T. 33, S.G.P.T. 25. Three weeks later the patient came again to the laboratory, and said he was fasting; however, serum was lipoidal, icteric index lipoidal cloudy, direct bilirubin negative, indirect bilirubin 0.29 mg%, S.G.O.T. 38 units, S.G.P.T. 60 units. Only one day thereafter, it was learned that the patient was not able to concentrate or work, being extremely suspicious and suffering from auditory hallucinations. His return to the hospital was therefore advised, but it took an additional twenty days before the patient came back to the hospital. At that time he was extremely tense and suspicious, vague, evasive, circumstantial, hallucinated in the auditory field, and showed marked thought-blocking and inappropriate affect. Icteric Index was 11.1 units, direct bilirubin 0.28 mg%, indirect bilirubin 0.71 mg%. Consultant in internal medicine stated: "There is no history suggesting active liver or gall bladder or pancreatic disease now — all he admits to is some decreased desire for cigarettes in past week . . . No known exposure to jaundiced person and no recent blood transfusion or donation — except for blood tests here. He does not know about dark urine. Appetite remains good . . . The sclerae appear very slightly icteric but this may be within normal limits, no hepatic enlargement or tenderness, no splenomegaly, no cardiac enlargement . . . no gynecomastia, no prominent abdominal veins . . . Impression: This may be a slowly subsiding drug induced

*Our normal icteric index ranges from 4 to 6

**Normal values for van den Bergh direct negative; indirect, 0.1 to 0.25.

icterus due to biliary obstruction within the liver but I do not think it is of clinical significance now and do not recommend further studies unless he has new symptoms or increasing jaundice. Would avoid Thorazine and Mellaril, etc., during the next 4-6 weeks." After discussion with the consultant in internal medicine, the patient was placed on chlordiazepoxide 10 mg t.i.d.; he also received 14 E.C.T. Twenty days after the beginning of chlordiazepoxide treatment, the patient became more jaundiced, his icteric index was 22 units, and the drug was therefore discontinued. Consultant in internal medicine writes at this time: "Icterus is definitely deeper now in keeping with the elevated Icteric Index. There is nothing else to suggest hepatitis or a hemolytic process—last Hgb. was 14.4. Diagnosis—Icterus—probably drug induced versus recurrent idiopathic jaundice* (Gilbert's disease, Dubin Johnson Syndrome).

Recommendations: Would stop Librium and withhold Mellaril or any phenothiazine derivative. Serial studies of icteric index, S.G.P.T. and hemoglobin would be worthwhile. If this condition persists a liver biopsy would be in order." Laboratory tests over the next four weeks showed the following values for S.G.P.T. 25, 23, 22, and 25 units; direct van den Bergh: neg., neg., 0.4 mg%, neg.; indirect van den Bergh: 0.85, 0.55, 1.7, and 0.86 mg%; hemoglobin 13.4, 16.5, and 15.3 gms. Alkaline phosphatase, prothrombin time and a gall bladder contrast study were completely normal and icterus subsided gradually. Liver biopsy could not be done as the patient's family did not give permission for it.

Results

Four and a half months after chlordiazepoxide had been discontinued, the patient was released on convalescent leave for the third time, but was returned after three months and placed on thioridazine 25 mg b.i.d. There was no jaundice. Two and a half months later,

direct van den Bergh was negative, indirect 0.43 mg%. After four and a half months on this low dose of thioridazine, the patient could be released on convalescent leave, where his private physician continued the same medication without any jaundice or ill effects. Ten months later, he was seen for final discharge; there was no jaundice and the patient was still taking the same medication.

Summary and Discussion

A thirty-five year old man with a diagnosis of schizophrenic reaction, paranoid type, developed subicterus twenty-four days after he had been placed on thioridazine 100 mg t.i.d. It subsided after he was taken off the drug. Three and a half months later he was placed on chlordiazepoxide 10 mg t.i.d. and after twenty days on this medication he developed marked jaundice with icteric index of 22.0 units. It again subsided and did not recur during the following twenty-two months, in spite of the fact that the patient received thioridazine 25 mg b.i.d. for the last fourteen and a half months of this period. The onset of jaundice in this case corresponds to the usual time lag of four to five weeks in phenothiazine-induced hepatocanalicular jaundice. The mode of action could conceivably be a direct allergic one as in chlorpromazine, but it would also be possible that chlorpromazine and fluphenazine sensitized, while thioridazine functioned as a trigger of the allergic reaction. The residual amounts of phenothiazines might also have been potentiated by chlordiazepoxide. While we have no definite proof that these drugs caused the subicterus, other explanations appear unlikely. We therefore feel that the possibility of thioridazine and chlordiazepoxide impairing liver function on occasion, should be kept in mind.

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*Recurrent idiopathic jaundice appears to be unlikely in this case, as there was no positive family history, no tenderness of liver (which almost exclude the Dubin-Johnson Syndrome), and as jaundice was first detected when patient was already thirty-five years old. Rotor's Syndrome should also be considered, but all reported cases showed marked increase of conjugated, as well as unconjugated, bilirubin in the serum. We therefore believe that we can rule it out.

SOCIAL REHABILITATION IN SHELTERED CARE BOARDING HOMES

• Private boarding homes can be used for rehabilitating large numbers of mentally ill persons only if a systematic program is developed to maintain the quality of care. Elements of such a program must include means for matching patients with homes, means for developing new community-based supportive services, and means for evaluating the outcome of placement.

CHARLES S. GREEN, III

Among the various types of specialized after-care services currently being developed and expanded for the mentally ill, the sheltered care boarding home is the oldest.* It is particularly suited to those patients who are sufficiently recovered from their illness to live in the community and who for one reason or another cannot return to their own families.

The sheltered care boarding home offers several advantages making it a potentially effective type of facility in which the social rehabilitation of large numbers of mental patients may take place. 1. Such homes are accessible to the community which facilitates the re-integration of boarding home residents into the community life. 2. Re-integration also tends to prevent ex-patients from becoming mutually dependent. 3. By housing a limited number of persons, such homes may provide a level of personalized care unattainable in most institutions.

Maintaining Therapeutic Aims

In order to maintain the therapeutic aims of a large scale boarding home placement program a formal system must be established

which assures that patients and homes are carefully matched and that the outcome of placement is rigorously evaluated. In order to accomplish matching and evaluation it *first* must be possible to assess both patients and boarding homes in terms of a *common* set of theoretical concepts. Unfortunately the diagnostic categories employed in psychiatry do not provide such concepts.¹ The remainder of this article will offer a set of concepts for assessing both patients and homes and will outline briefly how a hospital in a nearby state utilized these to implement and evaluate a large scale boarding home placement program.*

Conceptualization

Social performance and rehabilitation

The number of ways in which an individual can associate with others is so great that one might despair of ever being able to discern and analyze patterns of association. However, it is generally accepted among social scientists that a relatively small number of variables is all that is necessary to characterize such patterns. Among these variables are:

1. The number of different types of activities in which the individual is engaged.

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*Sheltering the mentally ill with private families can be traced to Gheel, Belgium, where the practice developed between the 11th and 13th centuries.

¹This program is fully described and analyzed in a series of articles by this author and Joseph F. Toll, now of the Albert Einstein College of Medicine. See reference 2-5.

2. The number of different people with whom he associates.
3. The number of different sets of coparticipants in activities.
4. The number of different locations where activity is undertaken.
5. The number of different activities of each type.
6. The degree of competence and involvement in each activity.

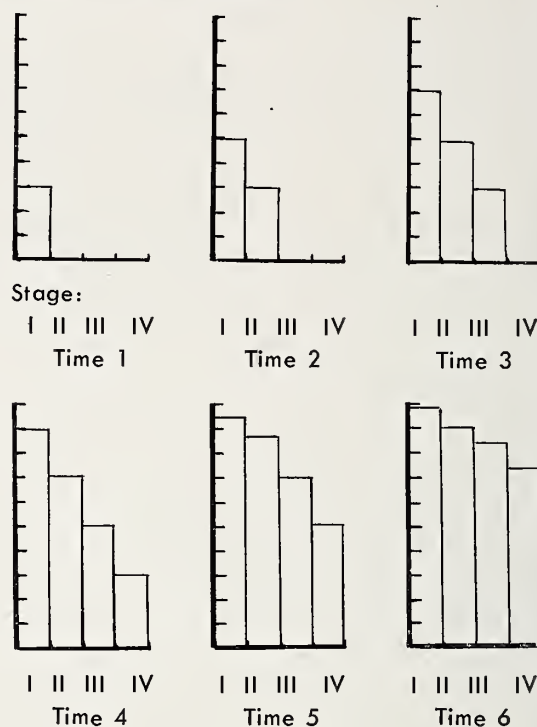
In modern societies, the typical pattern of association is characterized by the performance of a large number of roles. Each role tends to be *unique* in terms of the kind of activity performed, the particular set of other persons encountered in the role, the authority relationships among persons, and the place where the role is enacted.⁶⁻⁹ *An individual's level of social performance is defined by the extent to which his pattern of association resembles that typical of a modern society.* On the other hand, a *low* level of social performance would embody a pattern of association characterized by a limited number of activities undertaken with a single set of coparticipants regulated by a single authority in only one place. Table 1, outlines different possible patterns of association and levels of social performance in boarding homes. These patterns are formed by the various combinations of the values which can be assumed by each of the six characterizing variables.

Social rehabilitation refers to a process in which an individual, by taking advantage of a series of opportunities for care, specialized services, and activities changes his pattern of association. Through such changes he attains an overall level of social performance which is maximal relative to his capacities, responsibilities, and values. *The difference between this maximum level and the present level of social performance defines an individual's rehabilitative potential.* Such changes in level of social performance within each stage may be expected to take the form suggested by the sequence in Figure 1. Overall level is determined by summing across stages.

It is expected that in attempting to maintain or increase his level of social performance,

FIGURE 1
HYPOTHETICAL SEQUENCE OF PROGRESSIVE
CHANGES IN LEVEL OF SOCIAL PERFORMANCE

Level of social performance:



an individual may encounter a number of difficulties or problems. Whatever the source of such problems for any particular individual, it is presumed that the roles of the boarding home operator, various professionals, and other concerned persons, include identifying the problems and enabling the individual to overcome them wherever humanly possible or learn to accept them if necessary. These supportive roles are especially concerned with insuring satisfactory role performance within each of the social systems which are or become significant for the individual: family, friends, job, church, interest groups, political community, etc.

Classification of boarding homes

Successful placement of an individual in a sheltered care boarding home requires that that home provide or be able to obtain from community sources care, services, activities, and facilities which constitute the rehabilitative opportunities of at least a segment of the

TABLE I
LEVEL OF SOCIAL PERFORMANCE

STAGE:	Types of activity usually associated with each stage	Total number of different associates	Number of sets of coparticipants	Location of activities	Number of activities of each type	Degree of competence and involvement in each activity
I	Self-Care	Few	Few	Inside home	Few	a. Done for patient b. Patient assisted c. Done by patient (as above) (as above) (as above)
II	As in I, plus: Recreation, Diver- sion, Employ- ment in home, Trips	Several	Several	Inside home	Few	a. Spectator or novice b. Active participant c. Leader or helper of others (as above) (as above) (as above)
III	As in II, plus: Closely supervised employment outside the home	Many	Many	Outside home	Many Few Many	(as above) (as above) (as above)
IV	As in III, plus: Unsupervised employment and other activities of public significance	Very many	Very many	Inside home	Few Many Few Many	(as above) (as above) (as above) (as above)

rehabilitative process. These opportunities may be classified in terms of the level of social performance which may result from taking advantage of them. This classification yields several possible types of boarding homes; each type corresponds to one of the stages in Table 1.

Implementation

Reorganization and retooling of professional skills

The state hospital which undertook the program discussed here found that reducing its population and reorienting itself to community-based care required major changes in organization.

1. Decentralization and a team approach were instituted.
2. The "reach" of the limited number of professionals was extended through training and supervision of non-professionals to handle routine tasks and to make decisions not requiring professional competence.
3. The size of the boarding home program and the decentralization of the hospital created numerous problems necessitating the coordination and evaluation of placement efforts by a single person.
4. Perhaps the most important feature of the program was that the community became the major source of care for ex-patients. Since it is rare to find a community which is organized to provide a complete spectrum of services for persons living in boarding homes, the hospital had to take the initiative in fostering new programs for boarding home residents. However, it was the experience of this hospital that this role should always be an advisory rather than a supervisory one.

Assessment of patients' rehabilitative potential

Each patient considered by the medical team as ready to leave the hospital was rated by non-professionals under their supervision on each of three check lists.*

On one of the lists the non-professionals were required to assess the patient's *present*

and *potential* levels of social performance. The difference between the two levels constituted his rehabilitative potential. Matching of patient with home was based on two criteria. First, the rehabilitative opportunities available in or through a set of one or more homes had to be sufficient to maintain and increase the level of social performance. Second, when selecting a particular home from the set having the appropriate rehabilitative opportunities, consideration had to be given to the patient's preferences, goals, physical and emotional needs, socio-economic class, and cultural background.

Assessment of boarding homes

Since it became impossible for each social worker or non-professional aide to know each of the many boarding homes well enough to assure careful matching, the sociologist attached to the program developed a file for each home. On the basis of his studies and other information included in the file, he classified each home. The file was available to every worker or aide and the sociologist made himself available as a consultant on the resources and opportunities available in the homes and communities.

Program evaluation

A number of studies were undertaken to evaluate systematically the effectiveness of various aspects of the program. For these studies use was made of patients' records, population movement data from five state hospitals, records on boarding home operator applicants, and a specially designed questionnaire periodically completed by boarding home operators on each resident. The results of program evaluation suggested that sheltered care boarding homes were highly effective in *maintaining* ex-mental patients in the community and that the particular program described here seemed to be more effective in this respect than the other programs examined. However until the analysis of program evaluation data is completed, there is only impressionistic evidence to show that *behavioral changes* can be attributed to placement in boarding homes in general and to this program in particular.

Continued on Page 354

*The criteria employed by the medical team to decide whether a patient was ready to leave are those recommended in reference 10.

CONSIDERATIONS OF THE CENTRENCEPHALIC (GENERALIZED) TYPE OF EPILEPSY

- Epileptic phenomena may occur in the absence of any irritative focus within the cerebral hemispheres. This type of seizure disorder has been labelled "centrencephalic epilepsy." Recent advances have been made in this field, especially with regard to genetic components and precipitating factors.

E. NIEDERMEYER, M.D.

Decades of heated discussions have taught us that no straight line can be drawn between the focal, presumably acquired type and the generalized, presumably predispositional type of convulsive disorder. Hence, the time honored distinction between idiopathic and symptomatic epilepsy can be accepted only with some reservations.

When we look upon epileptic phenomena from both the clinical and electroencephalographic viewpoint, then it becomes clear that a generalized or bilateral-synchronous type of seizure discharge is usually associated with the following types of seizures: Grand mal (without preceding focal manifestations), Petit mal, myoclonic seizures and the rare Petit mal Status. These types of seizures are frequently interdigitated and their inter-ictal EEG tracings are dominated by generalized or bilateral-synchronous seizure potentials such as spike-wave complexes, multiple spikes and multiple spike-wave complexes.

These various kinds of bilateral-synchronous seizure discharges have been labelled as "centrencephalic"¹ and an intralaminar thalamic origin was presumed². The seizure patterns usually occur in the absence of any demonstrable intracranial pathology. Only in extremely rare cases, primary centrencephalic seizure activity is caused by deep meso-diencephalic lesions³.

The primary centrencephalic seizure discharges and the associated types of seizures have been thought to reveal a genetic component. Metrakos and Metrakos⁴ were able to demonstrate that 37% of the siblings of probands with centrencephalic epilepsy had themselves centrencephalic EEG abnormalities, irrespective of whether they also had clinical seizures. These studies led to the assumption that centrencephalic i.e. generalized or bilateral-synchronous seizure discharges are due to an autosomal dominant gene with reduced penetrance. The most puzzling result of these studies is the variation of penetrance with regard to age, as Metrakos and Metrakos⁴ have pointed out "... the unusual characteristic of a very low penetrance at birth which rises rapidly to near complete penetrance (close to 50%) for ages 4½ to 16½ years declines gradually to almost no penetrance at age of 40½ years."

Genetic factors in epilepsy, however, are not entirely limited to the centrencephalic type. Rodin and Whelan⁵ reported on familial occurrence of paroxysmal temporal lobe abnormalities in the EEG. Bray and Wiser⁶ investigated patients with mid-temporal seizure discharges and demonstrated a genetic etiology in 30% of the cases. These authors presumed high penetrance (about 50%) in middle childhood and low penetrance in early childhood and adult life. With respect to the similarity of their data to those of Metrakos and Metrakos⁴, Bray and Wiser suggested that the concept of idiopathic epilepsy should

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be broadened to include such focal temporal abnormalities in addition to generalized seizure discharges.

These introductory remarks show the complexity of the problem.

Seizure Precipitating Mechanisms in Centrencephalic Epilepsy

There is some evidence that seizure discharges in centrencephalic epilepsy are triggered by mechanisms different from those in other types of epilepsy.

It was recently noted that generalized spiky discharges in drowsiness and sleep were commonly associated with and distributed like K-complexes (Niedermeyer^{7,8,9}) (Fig 1). K-complexes are physiological EEG responses to mild arousing stimuli, generally confined to the state of drowsiness or sleep. It was therefore suggested that changes in the level of awareness would trigger the seizure discharges in the vast majority of centrencephalic epileptics. According to these observations, the precipitation of generalized or bilateral-synchronous spikes might be due to a biphasic process. In the first phase, the lowering of the level of awareness would act as a predisposing factor, and mild arousing stimuli would constitute the immediate triggering mechanism⁹.

In a small fraction of centrencephalic epileptics, however, intermittent photic stimulation represents the most potent precipitating mechanism. Both types of triggering mechanisms, changes in the level of awareness and flickering light, are almost entirely limited to centrencephalic epilepsy and absent in other forms of convulsive disorder. These mechanisms are apparently also absent during the first 2 years of life⁸.

In addition to the immediate triggering factors, there are metabolic conditions which are capable of enhancing centrencephalic seizure activity. Blood alkalosis (hyperventilation) and hypoglycemia are best known among them; the former is extremely effective in bringing forth Petit mal seizures. Metrazol given intravenously may give rise to centrencephalic seizure patterns, but it is also capable

of activating focal discharges whenever a focus exists.

Factors of Age in Centrencephalic Epilepsy

It is well known that Petit mal, probably the classical and most representative type of centrencephalic epilepsy, is commonly seen in the age group ranging from 4 to 16 years. In a considerable percentage of these patients, Grand mal seizures may occur during and after puberty while Petit mal becomes relatively rare after the age of 20. Furthermore, centrencephalic seizure discharges by and large are most common in the age range from 4 to 16 years. Note that these figures are identical with the age range of maximal genetic penetrance (see above⁴).

There is also some evidence that physiological vertex sharp activity in deep drowsiness and light sleep is most pronounced in the same age range from 4 to 16 years. Such sharp potentials over the vertex area provide the initial portion of the above mentioned K-complexes (see Fig. 1). One might speculate that K-complexes and especially their vertex sharp component constitute a "physiological paroxysmal episode" in any individual, however most prominent in children and adolescents. Such a physiological episode might readily be superimposed by (or converted into) definite seizure patterns if the individual is predisposed to centrencephalic epilepsy.

The decline of amplitude in vertex sharp waves during the course of adult life as well as the rather poor development of these potentials in babies provide further evidence for the linkage of K-complexes and centrencephalic seizure patterns.

The monumental work of the Gibbsses¹⁰ has demonstrated that EEG patterns as such are age determined. Hence a genetically determined seizure disorder will manifest itself within that age range during which the production of generalized-synchronous seizure discharges is most readily attained. Therefore, the "variable penetrance" of the centrencephalic epilepsy gene may be better understood in the light of these considerations.

While, in general, centrencephalic epilepsy

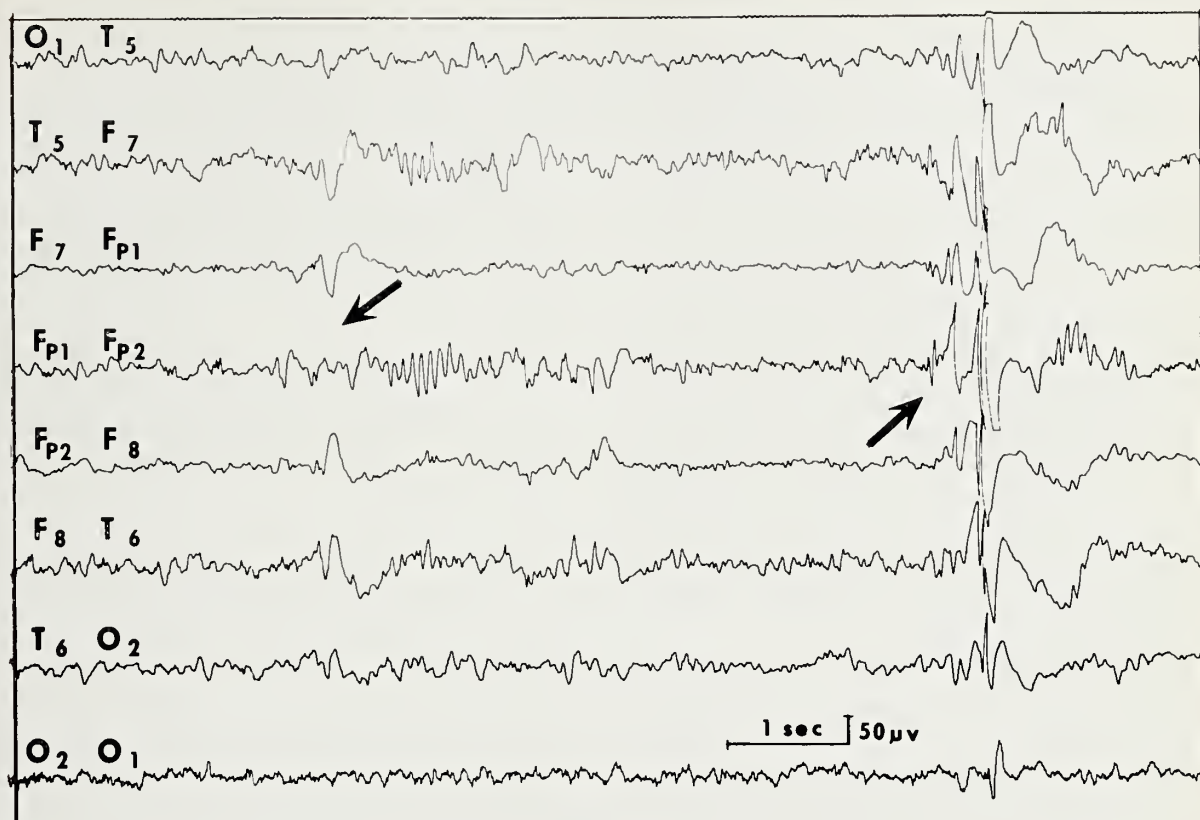


FIGURE 1

Twenty-two-year old woman patient. Petit mal since age 9, grand mal since age 15. The left arrow points to a physiological K-complex. Note the initiating sharp component and the phase reversal across the midline. The right arrow is pointing to an abnormal K-complex associated with spikes.

may be regarded as a rather benign, well controllable and frequently self-limited type of epilepsy; there is a minority of centrencephalic epileptics having a particularly severe and recalcitrant type of epilepsy with a trend to mental deterioration. It is likely that effective treatment of early centrencephalic seizure manifestation such as Petit mal in childhood may help to prevent Grand mal in adolescence and a severe course of the convulsive disorder in adult life.

Difficulties in the EEG Diagnosis of Centrencephalic Epilepsy. "Secondary Temporalization"

In a certain number of these patients, both centrencephalic seizure patterns and focal spikes are recorded which latter are most frequently found over the temporal region. These cases fall into the bordering area between cen-

triencephalic and temporal lobe (or other focal) epilepsies.

Attempts have been made to explain the secondary involvement of limbic structures of the temporal lobe on neuropathological grounds. Sclerosis of the Cornu Ammonis has been thought to be attributable to local hypoxic tissue damage in an area considered particularly vulnerable by virtue of its rather poor arterial blood supply.^{11,12,13} In light of this view, severe Grand mal seizures would give rise to a temporary hypoxic state and subsequent ischemic lesions within the hippocampus.

On the other hand, such hippocampic lesions are very common in cerebral arteriosclerosis. The vast majority of arteriosclerotic patients with such lesions proved to be seizure

free.^{14,15} There is a good deal of evidence that "... the occurrence of convulsive and other seizures in the presence of hippocampal and other temporal lobe lesions is due to some factor other than, or in addition to, the morphological damage incurred." (Haymaker et al.)¹⁶

Electrophysiological abnormalities within the temporal lobe and its limbic structures may indeed develop in the absence of morphological damage. There was ample evidence that paroxysmal after-discharges of the amygdala-hippocampus-complex may be secondary to distant irritative lesions. On experimental grounds it was postulated that the amygdala and the hippocampus are "low threshold areas" (Lichtenstein et al.,¹⁷ Walker and Udvarhelyi.¹⁸). In human pathology, cases of temporal lobe epilepsy due to distant lesions were reported by Falconer et al.¹⁹

Depth studies in the human yielded rather surprising results in presumed centrencephalic epileptics. Angeleri et al.²⁰ reported marked spiking in the amygdala in such patients and some doubts were cast upon the validity of the concept of centrencephalic epilepsy.

The presumed centrencephalic epileptics in the material of Angeleri et al. consisted mainly of patients with long standing convulsive disorders and mental deterioration. It is reasonable to assume that, in these patients, the amygdala acted secondarily as a "low threshold area." Therefore, there is no reason to reject the concept of centrencephalic epilepsy on the basis of focal amygdaloid spiking in such patients.

There might be a trend to "secondary temporalization" in the severe and persistent type of centrencephalic epilepsy (see Table 1.) This, of course, renders difficult the distinction of centrencephalic from temporal lobe epileptics. The former may show temporal lobe spikes, psychomotor automatism and psychiatric deviations which, in general, are felt to be associated with temporal lobe epilepsy.

"Secondary Bilateral Synchrony"

This term denotes generalized of bilateral synchronous discharges secondary to a well

defined focal abnormality. According to Jasper,²¹ unilateral foci located within the mesial portion of the frontal and temporal lobes are capable of firing downward into upper brain stem areas thence triggering bilateral-synchronous spiking via diffuse thalamo-cortical projection systems (see Table 1). Lesions in the parasagittal region were also thought to give rise to secondary bilateral synchronous discharges.²²

It has been demonstrated that focal or unilateral paroxysmal abnormalities in the waking EEG may be converted into bilateral or generalized synchronous patterns during drowsiness and sleep.^{23,7,8}

When both focal and centrencephalic seizure discharges are present in a record, a distinction should be attempted between a) primary centrencephalic seizure patterns with a secondary focus due to "low threshold area" involvement, b) primary focal seizure patterns with secondary bilateral synchrony, and more rarely, c) coexistence of 2 independent disturbances, one of centrencephalic origin, the other of focal character. Such a distinction may become very difficult or even impossible. Clinical considerations may be helpful in this differential diagnosis. Thus, the sequence of the type of seizures is particularly important. A history of onset of typical Petit mal at the age of 5 and of Grand mal at the age of 15 years is highly suggestive of a primary centrencephalic seizure disorder; in such cases, possibly emerging temporal focal abnormalities are likely to be due to secondary "low threshold area" involvement. On the other hand, a history with onset of Grand mal at the age of 2 years (independent of hyperthermia) and, later in childhood or in adolescence, onset of typical psychomotor automatisms is suggestive of early childhood brain damage with a residual epileptogenic temporal lobe lesion. In such a case, focal spiking is likely to be primary while centrencephalic seizure discharges should be regarded as secondary.

The Non-centrencephalic Group of Convulsive Disorders: "Symptomatic Epilepsy"

This extremely large and heterogeneous

TABLE 1
Centrencephalic Epilepsy and Related Conditions: Neurophysiological Mechanisms

	<i>Neurophysiological Mechanisms</i>		<i>EEG</i>
	<i>Primary</i>	<i>Secondary</i>	
A) Primary centrencephalic epilepsy (primary bilateral synchrony)	Dysfunction within thalamo-cortical circuits		Generalized synchronous seizure discharges
B) Secondary temporalization in primary centrencephalic epilepsy	Dysfunction within thalamo-cortical circuits	acting upon "low threshold areas" thus giving rise to discharges from limbic temporal lobe structures	Generalized synchronous seizure discharges mixed with temporal lobe abnormalities
C) Secondary bilateral synchrony	Cortical epileptogenic focus	acting upon thalamo-cortical circuits	Focal seizure discharges mixed with generalized synchronous seizure patterns

group of convulsive disorders should be divided as shown in Table 2. It becomes evident that the group of "epilepsy due to cerebral disorder" should be separated from the group of "convulsions due to extra-cerebral causes." In this latter group, very common seizure conditions are listed, for instance convulsions in alcoholics and the febrile convulsions of young children. In such states, an essentially intact brain reacts with seizures (almost always Grand mal) to various types of metabolic or toxic systemic disturbances.

This indicates that the dichotomy of idiopathic vs. symptomatic epilepsy should be revised and replaced by a trichotomistic concept.

Therapeutic Considerations

It is well known that the classical "broad spectrum" anti-convulsants such as phenobarbital and diphenylhydantoin are frequently unsuccessfully used in Petit mal while these drugs are generally effective in other centrencephalic types of seizures such as Grand mal (without focal onset) and myoclonic seizures. The oxazolidine-dione-group (Trimethadione, paramethadione) and the suximide group

(phensuximide, methsuximide and ethosuximide) have proved to be most effective in the control of Petit mal.

These drugs are directed toward Petit mal as a clinical-electrical epileptic entity and not toward the generalized spike-wave discharge as such. This is evidenced by the fact that the oxazolidine-diones and suximides are of little or inconsistent value in Petit mal status (spike wave stupor) although this condition is characterized by sustained generalized spike-wave activity. It is also doubtful whether these drugs would significantly reduce the number of seizures in patients with "secondary bilateral synchrony."

Hence the choice of anticonvulsive drugs should be determined mainly by the type of seizures and not by subdivisions such as "centrencephalic vs. focal" or "idiopathic vs. symptomatic." Grand mal as the most common types of epileptic seizures cuts across these divisions and is just as common in the centrencephalic group as it is in the group of epileptics with intracranial pathology. Regardless of its etiology and pathogenesis, Grand mal shows good response to phenobarbital and Diphenylhydantoin in the vast majority of the cases.

TABLE 2

Characteristics of the centrencephalic and the non-centrencephalic types of epilepsy

	<i>Centrencephalic epilepsy</i>	<i>Epilepsy due to cerebral disorder</i>	<i>Convulsions due to extracerebral causes</i>
Intracranial Pathology	None except for very rare cases of mesodiencephalic lesions.	Various types of pathology (perinatal, infection, tumor, trauma, vascular), giving rise to focal cerebral irritation.	None (by definition)
General pathophysiology	Unknown	Unknown	Abnormal blood chemistry: Metabolic and toxic influences ("rum fits," febrile convulsions, barbiturate withdrawal, hypoglycemia).
Abnormal neurophysiology	Presumably abnormal function of thalamo-cortical circuits ("centrencephalic system").	Abnormal focal discharges, becoming generalized or spreading to "low threshold areas" in many instances.	Poorly understood.
EEG	Generalized or bilateral-synchronous seizure discharges: classical (3/sec) spike-wave, slow or fast spike-wave variants, multiple spikes, multiple spike-wave.	Focal or diffusely scattered seizure discharges: random spikes and sharp waves, frequently mixed with slow activity.	Frequently normal interval tracings (Febrile convulsions, "rum fits"). Otherwise diffuse or generalized abnormalities.
Secondary mechanisms complicating the EEG diagnosis	"Secondary temporalization."	"Secondary bilateral synchrony," "Secondary temporalization."	Rare
Type of seizures	Grand mal (common), Petit mal (common), Myoclonic (infrequent), Petit mal status (very rare).	Grand mal, occasionally ushered by focal seizure (aura) Psychomotor automatism Focal motor (Jacksonian) and other focal seizures.	Grand mal (common), Myoclonic (rare except for uremic states).
Onset	5-14y. (with regard to Petit mal), 12-25y, (with regard to Grand mal).	Any age (depending on the type of pathology).	Any age.
Course	Relatively benign and fairly well controllable except for a small recalcitrant group.	Depends greatly on the type of pathology.	Depends on the treatment of the primary cause. Febrile convulsions will disappear spontaneously in the vast majority.
Immediate triggering factors	Single bursts probably triggered by changes of the level of awareness. Photoc stimulation effective in a certain percentage. Hyperventilation fre-	Poorly defined.	Except for the Metabolic or toxic factors, no direct triggering factors.

Consideration of the Centrencephalic (Generalized) Type of Epilepsy—Nidermeyer

	<u>Centrencephalic epilepsy</u>	<u>Epilepsy due to cerebral disorder</u>	<u>Convulsions due to extracerebral causes</u>
	quently very effective by preparing the ground for the precipitation.		
Incidence	Less common than "epilepsy due to cerebral disorder" probably 15-25% of the total of epileptics.	More common than centrencephalic epilepsy.	Very common. Children with febrile convulsions are usually not listed among epileptics which renders precise figures difficult.
Genetic factors	Present in a large number of patients.	Occasionally present or a contributory factor.	A contributory factor
Relationship to "idiopathic epilepsy"	Almost identical with the concept of "idiopathic epilepsy."	None or little	None or little
Relationship to "symptomatic epilepsy"	None except for those very rare cases of centrencephalic epilepsy due to a mesodiencephalic lesion.	Widely overlapping with the concept of symptomatic epilepsy.	Has been either regarded as "symptomatic" or listed in a distinct category.
Treatment	Classical anticonvulsants (Phenobarbital, Hydantoines) Only Petit mal may require Trimethadione, Suximides or ketogenic diet.	Classical anticonvulsants (Phenobarbital, Hydantoines). Psychomotor automatisms may require Primidone or Methsuximide etc. Surgical treatment may become necessary.	Control of causing factors. Anticonvulsants may become necessary in some cases.
Mental deterioration and personality change	Usually mild. Occasionally therapeutically rebellious cases may have to be institutionalized because of marked psychiatric symptoms (possibly due to "secondary temporalization".)	Depends greatly on the type of pathology. May become severe and in the case of temporal lobe epilepsy, rather specific with affective and sexual disturbances. Schizophrenia-like psychosis may occur in the interval in temporal lobe epileptics.	Depends on primary disorder.

Petit mal, which is by definition a centrencephalic type of epilepsy, may require special anticonvulsants such as the oxazolindiones and the Suximides. To a lesser extent, this is also true of psychomotor automatisms, a common seizure manifestation in temporal lobe epilepsy. Although this type of seizures may frequently prove to be recalcitrant to medication, some drugs such as primidone (mysoline), methsuximide (Celontin), the highly toxic phenacemid (Phenurone) and according

to recent reports from foreign countries, carbamyl-dibenzazepin (Tegretol) have shown evidence of their superiority to the common anti-convulsants.

Surgical treatment of otherwise recalcitrant cases of temporal lobe epilepsy has proved to be effective in a sizeable number of patients. The results of temporal lobectomy are considered 'excellent' in 30-40% and "satisfactory" in another 30-40% of the patients (A. E. Walker²⁴). This fascinating segment of mod-

ern therapy cannot be duly discussed in this context.

Thus far, there is virtually no surgical therapy in rebellious cases of centrencephalic epilepsy. Attempts in this regard will have to concentrate on the fronto-orbital cortex. According to recent experimental work of Velasco and A. E. Walker,²⁵ the orbital cortex seems to play a crucial role in thalamo-cortical functions. Hence, orbital ablation might have some effect on centrencephalic seizure discharges.

The Experimental Approach to Centrencephalic Epilepsy

Centrencephalic epilepsy is likely to be limited to the human species. This may explain the difficulties in the experimental preception of bilateral-synchronous seizure discharges^{26,27,28}. One facet of centrencephalic epilepsy is the paroxysmal response to flickering light which, according to Gastaut,²⁹ is also confined to the human species with a strong genetic trait. Although experimental work in various species of animals and especially in the cat may provide us with some information concerning the thalamic involvement in the production of bilateral-synchronous seizure discharges, there is some reason to assume that such centrencephalic seizure mechanisms play a very minor part in the epileptic activity in animals.

Further research in centrencephalic epilepsy will have to be based to a large extent on clinical and electrophysiological data obtained in the human while the study of epileptic phenomena, in general, will greatly depend on experimental work in the animal.

Summary

The term "centrencephalic epilepsy" denotes a bilateral or generalized synchronous type of seizure pattern. Changes of the level of awareness are likely to constitute the predominant triggering factor in centrencephalic epilepsy.

Petit mal in childhood followed by Grand mal in adolescence are the most common centrencephalic seizure types. An autosomal dominant genetic pattern has been demonstrated; its penetrance, however, is low before the age

of 4 and after the age of 16 years.

The distinction between centrencephalic and other types of epilepsy is blurred by the occurrence of phenomena such as "secondary temporalization" and "secondary bilateral synchrony". In spite of a vast gray zone in the bordering region, centrencephalic epilepsy may be regarded as a clinical entity.

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THE RELATIONSHIP BETWEEN SCHIZOPHRENIA AND TOXOPLASMOSIS

A Critical Study

- The author believes that there is no relationship between schizophrenia and toxoplasmosis. More research is needed in developing methods which will enable us to correlate the two entities.

NICHOLAS DESTOUNIS, M.D.

Introduction

The present study is designed to investigate the relationship between schizophrenia and toxoplasmosis. From other studies done elsewhere, Burkinshaw¹ and Varela² it was found that a high percentage of mental patients are infected with toxoplasma as determined by the high frequency of dye test positivity among these patients.

Remington, Jacobs, and Kaufman³ have found within the United States epidermiologically, the prevalence rates for a number of areas. The overall rates are as follows: Oregon 17%, St. Louis 26%, New Orleans 31%, Pittsburgh 35%, Washington, D.C. 27%, and Moroe, Tennessee 21.8%.

Objectives

A. The study of 90 newly admitted white and non-white patients of both sexes, between the ages of 18-65.

B. This group of 90 patients was divided into two subgroups. Thus, 45 patients diag-

nosed as schizophrenic were formed the experimental group and 45 patients diagnosed as non-schizophrenic were called the control group.

Hypotheses

1. General: That toxoplasmosis diagnosed through the skin test is associated with mental illness.

2. General: That the incidence of toxoplasmosis (positive skin test) is higher in the schizophrenic group than in the non-schizophrenic group.

Methodology

The subjects of this study were selected among newly admitted, state hospital psychiatric patients (Crownsville State Hospital, Maryland, U.S.A.) white and non-white of both sexes, between the ages of 18 and 65. In this study the skin test was used by injecting 0.1 ml. of antigen intradermally into the skin of the inner surface of one forearm, and 0.1 ml. of the control was injected intradermally into the skin of the forearm. The same technique was applied in both the schizophrenic and non-schizophrenic groups, and readings were obtained after 48-72 hours. An area of

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erythema and in duration of over 10 m., with a negative reaction in the control, was interpreted as a positive test.

Results and Analysis

A group of 90 patients admitted to Crowns-ville State Hospital was studied. These patients were divided into two subgroups.

A. Schizophrenic Subgroup: In this subgroup 45 patients were found to be suffering from a schizophrenic illness. Thus of 45:

a. Twenty-five were diagnosed as acute schizophrenic reaction, paranoid type (10 men non-white, 5 women non-white; with the average age of 18-35, 6 white men and 4 white women with the average age of 18-26).

b. Sixteen as chronic schizophrenic reaction, undifferentiated type, (6 men non-white, 4 women non-white with the average age of 22-45, 4 white men and 2 white women with the average age of 23-46).

c. Four, as acute schizophrenic reaction, catatonic type all of whom were men non-white with the average age of 19-23.

d. Of the total 45 patients of the schizophrenic subgroup, 5 (2 non-white men, 1 non-white woman, 2 white men, aged 23-30) were found to have a positive skin test reaction. Of these 5, 1 presented also symptoms of chorioretinitis (white men).

B. Non-Schizophrenic Subgroup: In this subgroup 45 patients were found to be suffering from a variety of mental disorders. Thus of 45:

a. Ten were diagnosed as mental deficiency (4 non-white women with the average age of 19-22 and 3 white men all of whom were 23 years of age.

b. Two, as epilepsy (both white men, age 25)

c. Fifteen, as acute brain syndrome associated with alcoholism (8 non-white men and 7 white men aged 25-37).

d. Eight, as psychotic depressive reaction (2 non-white men, 1 non-white woman, aged 28-37, and 5 white women aged 29-39).

e. Eight, as neurotic depressive reaction (2 non-white men, 1 non-white woman, aged 23-28, and 5 white women aged 24-29).

f. Two, as drug addiction, both of whom were men white patients of 26 years of age.

g. Of the total 45 patients of the non-schizophrenic subgroup, no one was found to have a positive skin test reaction.

Discussion

During the past three decades much has been written about human infection with *Toxoplasma gondii*. Two types of infection have been described:

1. A congenital form, characterized by encephalomyelitis cerebral calcification, hydrocephalus, and choroidoretinitis, with symptoms apparent either at birth or soon after. The prognosis is very poor, and these patients who survive are usually mentally retarded and epileptic. Mohr (1952)

2. An acquired form, which falls into four clinical groups: cerebrospinal, exanthematous, glandular, ophthalmic. Wright (1957)

Duke-Elder (1949) suggests that the triad of convulsions, choroidoretinitis, and calcified plaques seen radiologically in the brain is diagnostic of toxoplasmosis.

Binkhorst (1948) believes that in the adult, choroidoretinitis may be the only sign of infection. Others, Smith and Ashton (1955), Jacobs (1956) and Perkins (1958) have estimated that 20-35% of cases of choroidoretinitis are caused by toxoplasmosis.

Harper⁴ in a survey of toxoplasmosis in the Toronto area, Canada using the skin test and complement fixation test, found evidence of the infection in all age groups.

Fleck⁵ in an epidemiological study found that mental defectives and epileptics are no more likely to suffer from toxoplasmosis than the rest of the community, at least in south England and Wales. These results, however, differ from those of Thalhammer⁶ who found that in children with cerebral defects of all types, the incidence of toxoplasma infection was about 17% higher than is normal, and it was significantly higher in all age groups.

The same author claims that while the frequency of toxoplasma infection is little, if at all, greater in microcephaly, hydrocephaly, or cerebral palsy than in normal, it is much greater in epilepsy and mental retardation. According to Thalhammer in about 20% of cases, the most important manifestations of cerebral defect are due to congenital toxoplasmosis. The same author suggests that at the end of the third month of pregnancy all women should be tested by the toxoplasmin skin test. If positive, as it will be in about half, this indicates that, the woman has been infected at least four weeks previously or long before conception and in this case we should not become concerned. If the skin test is negative, there is a chance of primary infection and it will be necessary at the end of the eighth month a dye test and toxoplasma antibodies to be done. If the test is negative, the danger has passed, if the test, however, is positive the foetus is in danger and the woman should be treated with pyrimethamine 25 mg. daily, t.i.d. and triple sulfonamide 3 grs. daily for 2-3 weeks. Weinman⁷ claims that 20 to 25% of fertile American women in their reproductive period have come into contact with toxoplasma. Some of these transmit the infection to their offspring, with resulting abortions, still births and perinatal deaths (0.3-3%).

Sorby (1953) has found that only 4.4% of certified mental defectives under 15 years, in London, reacted to the toxoplasma skin test. Other investigators have used other tests, such as complement fixation and hemagglutination in order to diagnose the disease. In the diagnosis, nevertheless of chronic ocular toxoplasmosis, the skin test is also of value, and a positive reaction gives the same qualitative information as the serologic tests. If on the other hand, the skin test is negative, a dye test and hemagglutination test ought to be done to confirm it.

Silverman⁸ in a study done in Mexico found that among 200 normal subjects, 29% had a positive dye test in contrast to 63.5% among mental patients.

Although our research study had an exploratory scope and we did not intend to

attempt a solution of the relationship between schizophrenia and toxoplasmosis, certain observations were made and the literature was reviewed under a critical prism:

A. Toxoplasmosis diagnosed through the skin test is neither always associated with all kinds of mental illnesses, as it was hypothesized, nor as other investigators have reported.

B. Toxoplasmosis diagnosed through the skin test was associated with our schizophrenic subgroups in 11.5%.

C. A positive skin test for toxoplasmosis in our schizophrenic subgroup has not convinced us, however, that the development of the schizophrenic illness was due to toxoplasmosis as other researchers believe.

D. We are still critical of reported studies claiming that positive serological tests for toxoplasmosis are convincing of a relationship between mental disorders and particularly schizophrenia and toxoplasmosis.

E. More research is needed in developing methods which will enable us to correlate the two entities under investigation undisputably.

Summary

This study, which was carried out on 90 patients, has presented comparative data on two groups.

1. Forty-five patients in the experimental group were found to be suffering from schizophrenia; 25 or 55.2% acute schizophrenic reaction, paranoid type; 16 or 35.2% chronic schizophrenic reaction, undifferentiated type; 4 or 8.9% acute schizophrenic reaction, catatonic type. Of the 45, 5 or 11.5% were found to have a positive skin test for toxoplasmosis and of these 1 or 2.1% presented symptoms of chorioretinitis.

2. Forty-five patients in the control group (non-schizophrenic 10 or 22.1% were classified as mental deficiency, 2 or 4.5% epilepsy, 15 or 15% acute brain syndrome, associated with alcoholism, 8 or 17.7% psychotic depressive reaction, 8 or 17.7% neurotic depressive reaction, and 2 or 4.5% drug addiction. Of the 45 of this group no one had a positive skin test for toxoplasmosis.

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THE CLERGYMAN AS MENTAL HEALTH WORKER

- The local clergyman, potentially a valuable source of support, counseling, and referral for mentally ill individuals, often misses opportunities for service to such people because of lack of experience and training. Educational opportunities in psychiatric hospitals have enabled many clergymen to become competent mental health workers in their own communities and parishes.

KENT D. SMITH

Chaplain, Delaware State Hospital

The local clergyman has several assets as one of the professional persons who works with the mentally ill and emotionally disturbed. He lives rather close to a relatively small segment of the total population, knowing a certain number of people intimately and being quite accessible to them. According to a recent survey, he is the first person to whom over forty percent of troubled people go for help. He is the one professional person who can, and is expected to, go to troubled people on his own initiative before the person has become so troubled that he must refer himself, or be referred, to a competent professional person. His orientation is toward the interpersonal and the existential. Whatever the causes of mental illness are, the mentally ill person is troubled in the interpersonal and existential dimensions of living: he has difficulties in relating to people and unusual interest in the ultimate questions of death, guilt, and meaninglessness.

With the relatively large numbers of clergymen serving most communities and their availability to most people, their contributions to the mental health field have been much smaller than one might expect. Of course, only a part of their time could, at the very best, be spent directly in counseling with troubled people. They are also administrators and teachers. But more seriously, college and seminary have given few of them any deep understanding of the problems of the mentally ill, and few of them have had more than very occasional

contacts with persons suffering from acute mental illnesses. Many have had little training in counseling and group work, and, as in other professions, some have intra- and interpersonal conflicts which prevent them from working effectively, particularly with people who have troubles in some of the same areas. With proper training and in some cases after adequate self-examination through counseling, psychotherapy, or group dynamics, the clergyman would be far better prepared to do his part in the care of the mentally ill who inevitably come his way.

There are two things which I am not suggesting. I do not expect that the local clergyman will necessarily become a member of someone's treatment team, having certain patients—maybe the easy ones—assigned to him or dealing specifically with the "religious" concerns of certain patients. The mental hospital chaplain may in some measure do this, but it is only necessary that the local minister have lines of communication open with psychiatrists and other members of the helping professions so that he may refer to them and consult with them when necessary. And I am not suggesting that he set up his own "practice" in competition with, or in imitation of, the psychiatrist and clinical psychologist. I am really not suggesting that the clergyman do anything different but only that he do with greater competence and insight the things that he has always done.

The clergyman naturally and normally will be in contact with four groups of individuals with psychiatric problems.

1. There will be those in the congregation and community who are in need of psychiatric care but who are unable or unwilling to receive it. In these cases he will refer when appropriate and when possible. When referral is not possible, he should have enough training to know what he cannot do but also enough experience to know what he can do. He can counsel. He can listen. He can hear confessions. He can accept and understand and love. He can alleviate symptoms and problems which have been made worse by misunderstandings or narrow, life-denying interpretations of religion. He can convey to people that they are acceptable to him and to the Church, even though they themselves are having trouble accepting their sexual desires, hostile feelings, and religious doubts. A value of the Bible is that its characters have problems in all of these areas — and were still men of God! The mentally ill person may feel that he is totally rejected because he has problems in any one of these areas.

2. There are few ministers who do not have at least one parishioner in a psychiatric hospital. The minister sometimes feels that he is not welcome in such institutions, or that patients in them are not accessible to any of his regular ministries, or occasionally that it is a dangerous place to go. The minister should visit with the kind of understanding and concern that is implied above. He should consult with chaplain and psychologist about the particular problems of his parishioner and about how he can be more helpful. He can be the patient's contact with the outside world. Unlike relatives he can be relatively free of fear, of censure and judgement, of defensiveness and of self-blame.

3. Most churches have members who have been discharged from psychiatric hospitals. With these people the minister can show the same understanding and, in addition, as an available person, provide the support that is necessary for the person to move back into the community. Ministers frequently fail here by putting the emphasis on getting the person back to church and into religious activities.

The trained and experienced minister will realize that individual visits with him may be far more important at first, and that some patients should only slowly move back into active participation in the religious community.

4. The minister may have parishioners who are in individual intensive psychotherapy although not hospitalized. With the previous groups the minister may fail by not doing enough: with this group there is more danger that he will do too much. The minister should respect the relationship between his parishioner and the therapist. He should not compete with the therapist for the patient's loyalty and gratitude nor should he duplicate what the therapist is doing. Even though the pastor is a competent counselor, formal counseling should cease when the person begins psychotherapy. The minister, of course, will continue a friendly, supportive pastoral relationship with the parishioner during treatment. He may indeed resume a counseling relationship when the formal psychotherapy is over.

What is being implied is that the clergyman has important and fully professional functions with regard to the mentally ill and that these functions are somewhat distinct from those of professional psychotherapists. But this is not to imply that there is a sharp dividing line between pastoral counseling and psychotherapy. The minister *will* work with people who could very well profit from psychotherapy, but who are unwilling to receive it, or cannot afford it, or to whom a competent psychotherapist is not available. Further, the trained minister will be aware of the various schools of psychotherapy with their methods techniques, and insights, and he will make use of what is appropriate to his counseling within his own competence. He may not interpret the unconscious, but he will be aware of the fact that unconscious motivations are at work. He will try to be alert to that which is called "transference" and "counter-transference" in psychotherapy, seeking to prevent the fulfillment of his own needs interfering with the needs of his counselees. He will learn to talk less and listen more. He will learn to reflect and interpret rather than to condemn and

condone.

The mentally ill parishioner has the right to expect three things of his minister. 1. He has the right to expect that the minister will have a reasonably thorough knowledge of human personality, human dynamics, human development, and mental and emotional problems generally. The minister should have had courses in these areas, and he should continue his reading in them. 2. The parishioner has the right to expect that the minister will have right attitudes about mental illness. The minister should be free of the prejudices about mental illness. He should encourage his congregation to eliminate the stigma that is placed on its mentally ill members. He should through experience know how fully human — how much like the rest of us — are those who suffer from mental illness. 3. The parishioner has the right to expect that the minister will *be there* during his illness, providing the appropriate counseling or support or presence.

Probably the best way for the minister to prepare himself for a more effective role in working with the mentally ill is participation in a program of clinical pastoral education. This form of continuing education was originated by Anton Boisen, a Congregationalist

minister who himself suffered from schizophrenia, at Worcester State Hospital in 1925. An ever-increasing number of state, federal, and private psychiatric hospitals are supporting such programs. Programs range from those lasting four hours a week for twelve weeks to residency programs lasting up to three years for those going into the hospital chaplaincy. This writer believes that every minister should participate in a full-time, twelve-week program of clinical training, the type of program that is now required by many seminaries for their students.

The Delaware Hospital is moving toward the establishment of such programs. The first twelve-week summer program for seminarians was conducted in 1965. A full-time, one-year intern program for three ordained men has been announced for next year, and at least one twelve-week program will be conducted. Churches are more and more frequently granting ministers leaves of absence for such programs. Physicians interested in the mental health problems of their communities might well encourage their ministers to participate and their churches to make such participation possible. Interested clergymen should contact the Chaplain at the Delaware State Hospital.

THE RELATIONSHIP BETWEEN SCHIZOPHRENIA AND TOXOPLASMOSIS

Continued from Page 351

Our findings would tend to suggest that there is no relationship between schizophrenia and toxoplasmosis. A critique of earlier studies was prepared and former results were contrasted with the experiences of the present study.

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SOCIAL REHABILITATION IN SHELTERED CARE BOARDING HOMES

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Editorials

FAREWELL TO MERCURY

Mercury as a diuretic has stood the test of time and performed exceedingly well over the years. It is also true that mercury is nephrotoxic and with the array of new drugs that are now available we can in all good conscience consider stopping the use of this sulfhydryl binding stand-by.

Everyone is aware of the toxic effects of bichloride of mercury. Fewer are aware that the mercury used in common diuretics has also a potentially toxic effect on the kidney. The more renal disease that exists the more sensitive the kidney is to mercury toxicity and the literature is now replete with reports of increasing renal failure following repeated injections of a mercurial diuretic. Since many patients are unresponsive to the less potent diuretics, it has been quite justified to treat patients with mercury. Now, however, spiro-lactone, triamptere, furosemide,* ethacrynic acid (soon to be released), as single oral drugs or two or more in combination, are frequently as potent as mercurials. Furosemide and ethacrynic acid are far more potent than mercury and are apparently non-toxic. They are, I believe, the drugs of choice in acute pulmonary edema and resistant cases of fluid retention. As time goes on, we may find that they are useful in the less dramatic situations. When the intramuscular and intravenous preparations become available, mercurials, hopefully, can be laid to rest.

Much is not understood about the two drugs, furosemide and ethacrynic acid. They are different chemically. Furosemide is an active diuretic in rats, where ethacrynic acid is not; but in humans their actions seem to be quite comparable and exceedingly potent. Their greatest potential danger is secondary to their extreme potency. They can cause rapid dehydration and transient hypovolemia which may lead to vascular insufficiency in the susceptible elderly individual. With repeated dosage, hypokalemia alkalosis can be

a hazard, particularly in the cirrhotic patient with aldosterone secretion. By blocking the sodium reabsorption in the ascending limb of the loop of Henle, large quantities of sodium ion remain within the tubule and are flushed to a distal site where aldosterone will cause its reabsorption in exchange for a potassium ion. In essence therefore, blocking sodium transport proximal to this site greatly enhances distal sodium potassium exchange and potassium wasting. Precautions should therefore be taken, particularly in patients with secondary hyperaldosteronism, to block this potassium secretory site with spiro-lactone or another potassium saving diuretic, prior to using repeated doses of furosemide or ethacrynic acid. It will often be necessary to give supplementary potassium as an elixir of potassium chloride.

Most diuretics have a ceiling dose and a minimal effective dose that are very similar. However with the two new diuretics, the required dosage varies very greatly and although one tablet may well be effective four to six tablets may be necessary in resistant patients with azotemia. It is important in such cases that the entire daily requirement be given as a single dose in the morning. If given more than once a day in divided doses the diuresis will be much less or completely ineffective where the danger of electrolyte depletion or nausea is actually increased.

A last word of caution might be that unlike most other diuretics, furosemide and ethacrynic acid do not lose their potency as the electrolyte changes occur. They are equally effective in acid, or alkaline milieu and therefore resistance is unlikely so that there is no built-in safeguard to prevent a patient from taking too many tablets too frequently.

Properly used, these new drugs are the most potent diuretics yet to be marketed. They soon will be available in IM and IV forms and at that time we can at last say farewell to an old but toxic friend, mercury.

*Lasix



The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



CATHARTIC DRUGS

There are numerous cathartic drugs derived from natural and synthetic sources. Many attempts have been made to classify these medicinals satisfactorily; they have been classified with respect to the time required for effect, site of action, and intensity of action, with result that the terms laxative, purgative, and drastic have been employed to describe particular types of cathartics. Perhaps the best method to code these drugs is by their mechanism of action and further subgrouping dependent either on source or on chemical nature.

There are four fundamental mechanisms by which cathartic medicaments exert their effect.

- 1) Irritation
- 2) Bulk
- 3) Lubrication
- 4) Lowering of surface tension

A cathartic compound should have the following properties:

- 1) Dependable with reproducible action
- 2) Duration of activity should be restricted to certain time limit
- 3) Non-toxic if absorbed
- 4) Should not cause excessive stimulation of gastrointestinal tract

The following table is arranged according to the above discussion:

Group and Compound	Average Dose	Time Required for Effect	Hour
IRRITANT			
A—Anthraquinone			
cascara sagrada	0.3 Gm	8	formed stool
senna	2.0 Gm	6	formed stool
aloe	0.25 Gm	8-12	formed stool
B—Resinous			
jalap	0.3-1.2 Gm	3-4	watery stool
podophyllum	5 mg	12-24	watery stool
C—Irritant Oil			
castor oil	15-30 ml	2-6	watery stool
D—Misc.			
phenolphthalein	0.1 Gm	4-8	semfluid stool
bisacodyl chloride	5-10-mg	12	soft stool
BULK			
A—Saline			
magnesium sulfate	15 Gram	½-3	watery
magnesium citrate sol'n	200 ml	½-3	watery
sodium phosphate	10 Gm	½-3	watery
B—Hydrophillic colloid			
agar	10-40 Gm		
psyllium seed	4-15 Gm		
methylcellulose	2 Gm TID		
EMOLLIENT			
liquid petrolatum	4-30 ml		
vegetable oil	4-30 ml		
WETTING AGENT			
	dioctyl sodium sulfosuccinate	20-100 mg	



President's Page

PROGRESS REPORT ON MEDICARE

Some observations regarding the newly instituted Medicare for the first three months would seem pertinent on this page.

One-hundred twenty days after July 1, Medicare—as administered by Blue Cross and Blue Shield—has established itself as part of the health community and is operating well considering its vast complexities.

During this period over 3,500 Medicare beneficiaries have been admitted to hospitals in Delaware. Blue Cross and Blue Shield of Delaware, Inc., as Fiscal Intermediary for Part A, has paid over \$751,000 to hospitals and as carrier for Part B, over \$85,000 has been paid for physicians' services.

These 120 days have not progressed without problems, complications and some headaches. The inter-relationships established under Medicare Part A and B are complicated and complex. As Commissioner Ball stated, "Not only are inter-relationships complex, but many program provisions have inherent complexity that cannot be overcome by any amount of procedure simplification. Separate billing for hospital based physicians, distinctions between Part A and Part B coverage in out-patient services, various new record keeping requirements, and deductibles and coinsurance in the various parts of the program are administratively complex provisions that must be dealt with."

For example, within the Part B portion alone during these 120 days, over 14,500

claims were received by the Carrier in Delaware. For every one of these claims, an inquiry had to be sent to the Social Security computer in Baltimore to establish the eligibility of the patient and the status of his deductible. These inquiries are only a small part of the approximately two million inquiries received by Social Security during this period of time.

In addition, of the 14,500 claims received in Delaware, *over 2,500 had to be returned to the physician for additional information*, and another 2,000 required further investigation on the part of the Carrier's personnel to supply sufficient data to enable the claims to be processed for payment.

The Carrier has stated that Requests for Payment from physicians with the assignment accepted, are usually processed somewhat faster because in the majority of cases these claims contain all of the information required for processing without any further investigation. On the other hand a large number of the receipted bills received for physicians' services from patients lack one or more of the items of information that are absolutely necessary before payment can be made. The Medicare Physicians' Manual issued by the Department of Health, Education and Welfare outlines the information that is needed to process a claim. The physicians' cooperation in providing this information on all bills with or without assignments will expedite processing and the payment for physician services.

The Medical Review Committee that was appointed by the Medical Society to review claims for the Prevailing Fee Program is also the review committee for Medicare claims. This committee, consisting of thirteen physicians representing most specialties, evaluates all unusual claims and are available to review requests for individual or special consideration by the patient or the physician.

In my experience, the pre-July 1 anxiety and predictions of overuse, abuse and long lines in the physicians' offices did not materialize in the first 120 days. A number of my colleagues have expressed the same viewpoint in their practices. Continued cooperation, patience and understanding by the physicians and the Carrier will maintain a smooth, efficiently administered Medicare Program in Delaware.

H. Thomas Mc Guire

CLINICAL STUDY OF MALIGNANT LYMPHOMA

The cooperation of physicians is requested in a study of lymphosarcoma and reticulum cell sarcoma in children and young adults.

All clinical stages of biopsy-proven disease are acceptable, and untreated patients are preferred. Slides of pathologic material must be submitted for review before patients can be accepted.

Of particular interest are those patients with clinical and histological features similar to the malignant lymphoma of African children (Burkitt tumor). These patients generally present with jaw, ovarian, or abdominal masses. The purpose of this study is to conduct immunologic, virologic, pathologic, and chemotherapeutic studies.

Physicians who wish to have their patients considered for the study may write or telephone: John L. Zigler, M.D., The Clinical Center, N.I.H., Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 64251.

CLINICAL CENTER STUDY OF CAROTID BODY TUMORS

The cooperation of physicians is requested in the referral of patients with the highly suspicious or proven diagnosis of a carotid body tumor. This investigation is to relate histochemical evidence of catecholamine containing cells in carotid body tissue to excretion of catecholamine and their metabolites.

Patients admitted will be evaluated for definitive treatment. The referring physician will be contacted concerning the indications for treatment and a cooperative decision made as to whether the treatment be best carried out at the Clinical Center or back in the hands of the referring physician.

Physicians interested in having their patients considered for admission to this study may contact: Alfred S. Ketcham, M.D., Clinical Center, Room 10N-116, N.I.H., Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 64164.

AMA PROPOSES NEW MEDICAL SPECIALTY

The AMA's Council on Medical Education will seek authorization from the House of Delegates next month to develop and initiate plans for creation of a new specialty—the family physician. The Council's action is being made on the basis of recommendations in a major report by its AD Hoc Committee on Education for Family Practice, *The AMA News* reports in its Oct. 24 issue.

The committee was charged in September, 1964, to review AMA policy regarding the future of family practice and to recommend the educational approach by which the goals of such policy might be achieved. "The committee believes," it said in its report, "that the American public needs and wants a large number of well-qualified family physicians to provide comprehensive personal health care.

"These physicians should be specialists prepared through new kinds of educational programs to meet the medical care needs of the future. As specialists, they should be entitled to appropriate specialty board certification."

The certification, the committee said, should be the primary and major certification provided by the board, and not secondary to that of some other specialty. In addition, it recommended that certification be for a specified period of time, such as five years, "and demonstration of continued competence in family practice should be required periodically for recertification."

The committee's description of the family physician is strikingly similar to the "personal physician" as defined in the Report of the National Commission on Community Health Services, and the "primary physician" as defined in the Report of the Citizens Commission on Graduate Medical Education (AMA News, Sept. 19, 1966).

"Although there are similarities between this report and the expressions of other bodies," the committee said, "the Ad Hoc

Committee has conducted its studies and deliberations separately and independently, and has reached its own conclusions and recommendations."

In its report, the committee said it in no way advocates return to the "horse-and-buggy" doctor of another era. "The committee believes, however, that there is need for a new kind of specialist in family medicine, educated to provide comprehensive personal health care, because of the complexity of modern medicine and the health care system," it said.

The family physician was defined as one who would be a personal physician, oriented to the whole patient, who practices both scientific and humanistic medicine.

The committee said the content of family practice educational programs should be flexible but that "certain basic fields" will constitute major sources of subject matter for most programs. These include internal medicine, pediatrics, surgery, psychiatry, obstetrics and gynecology, community medicine and the social and behavioral sciences. In addition, the students should be given elective opportunity for additional work in other tradition specialties, the committee suggested.

The committee envisions the family physician's education as including both the medical school and inter-residency experience "and is further dependent upon effective continuing education."

A satisfactory program for family practice, the committee said, "will generally require three to four years after medical school." Like the Citizens Commission for Graduate Education, the Ad Hoc Committee suggested that graduate training be an integrated whole. "The graduate training program should be organized as an integrated whole, rather than as separate internship and residency programs," the committee suggested.

In Brief

Radio Seminars

The Radio Seminars conducted by the Pennsylvania Hospital in Philadelphia will be continued this year starting October 11, and ending April 13, 1967. They will be held at The Wilmington Medical Center, Memorial Division, every Tuesday at 12:00 noon with lunch being served. The course is approved for 24 Credit Hours by the AAGP. Sydney Stat, M.D., will be moderator.

December 6, 8—*Hyaline Membrane Disease*, Horst A. Agerty, M.D., Clinical Professor of Pediatrics, Hahnemann Medical College.

December 13, 15—*Inoperable Malignancies*, Harvey J. Lerner, M.D., Assistant Surgeon to Pennsylvania Hospital.

January 3, 5—*Anticoagulants*, Edward D. Viner, M.D., Assistant Physician to Pennsylvania Hospital.

Schizophrenia Pilot Study

A grant has been awarded the World Health Organization (WHO) by the U.S., PHS to help finance an international pilot study of schizophrenia. Other participating countries will support the project in varying amounts and the WHO will supply \$145,000 each year. The study will be conducted in eight countries; U.S.A., Russia, Denmark, Great Britain, Columbia, Nigeria, Nationalist China and India. The confusion and disagreement that still exists over diagnosis, natural history of the illness and response to the various treatments for schizophrenia make this study desirable. Uniform methods will be used at each of the field stations to screen persons admitted for study. The Adult Psychiatry Branch of NIMH at the Clinical Center will be the field center for the United States.

Speakers On "Doctor's House Call"

Speakers for December on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Dec. 6: Charles Bancroft, M.D., *Allergy*; Dec. 13: Peter Coggins, M.D., *Plastic Cosmetic Surgery*; Dec. 20: Majorie Jane McKusick, *Accident Prevention*; Dec. 27: Richard J. Kester, M.D., *Psychiatry Today*.

Brief Briefs

- A series of four patient-counseling films—a new development in patient care—are prototypes from a series of seven maternity care counseling films and will be ready for general release to the medical profession late this year. They are intended for showing before or after counseling periods in a physician's office to provide a time-saving means of communicating basic medical information and instructions.

- A new report entitled *Spinal Cord Dysfunction*, a comprehensive follow-up study, has been issued by the Institute of Rehabilitation Medicine, New York University Medical Center. Single copies are available free upon request from the Publications Unit of the Institute, at New York University Medical Center, 400 East 34th St., New York 10016.

- Drug makers and distributors will comply with a government request that the number of candy-flavored children's aspirins per bottle will be limited to 25. Since some authorities consider more than this number dangerous or even lethal under certain conditions, the industry has stated

it would cooperate and that 25 one-quarter grains generally was accepted as a non-hazardous amount.

A FAMILY AFFAIR

Dr. Frank O'Brien and his wife, Dr. Margaret O'Brien had an exciting trip to Denmark with three of their six children when they decided to include Tom, 14, John, 11, and Maggi, 10 in their plans to attend the International Congress on Diseases of the Chest. Here they are boarding SAS jet and taking their last look at Copenhagen. Medical World News.



Personal Glimpses

Lemuel C. McGee, M.D., was honored by the Social Security Administration for his five years of service on its Medical Advisory Committee . . . Dewey A. Nelson, M.D., was recently certified by the Board of Qualification of the American Electroencephalographic Society . . . H. Thomas McGuire, M.D., was a guest at the October Annual Meeting of the Pennsylvania Medical Society held in Pittsburgh . . .

The Month In Washington

Proposed medicare amendments being considered by the new Congress convening Jan. 10, would extend the program to the disabled, include podiatrists' services, add out-patient drugs to Plan B, and authorize that billing for services of hospital-based physician specialists be put back under hospitals.

One of the final pieces of legislation passed by Congress in 1966 authorizes liberalization of the Keogh law under which physicians get a tax break for savings put in qualified pension plans. The full amount of the \$2,500 annual maximum was made tax deductible. Only half of the amount was tax deductible under the original law.

Key health legislation approved by Congress in 1966 includes:

Group practice—authorizes federal mortgage guarantees for construction of non-profit group practice facilities.

Health services—authorizes the Office of Economic Opportunity (anti-poverty) to make grants for comprehensive health services programs, including birth control.

Public health—authorizes 1) a one-year extension of PHS programs, including \$125 million for project grants for categorical programs, 2) extends the federal-aid vaccination program for three years; 3) provides for family health services for migratory workers.

Air pollution—authorizes a three-year, \$186 million extension of the federal anti-air pollution program and provides broader authority for air pollution control activities by localities.

Water pollution—authorizes a 3.7 billion, four-year program for cleaning the nation's waterways. It includes initiation of a massive program for combatting pollution in major water basins.

Narcotics—permits addicts charged with non-violent crimes to choose hospital commitment instead of trial, if the authorities agree, or could be sentenced after trial to hospitals for rehabilitation.

Packaging—requires that over-the-counter drugs and grocery products bear labels clearly showing the contents, quantity, and manufacturer.

Mental health—amends original law to provide grants to assist in the establishment and initial operation of community mental health centers.

Research laboratory animals—provides for federal regulations covering transportation, purchases, sale, housing, care, handling and treatment of such animals.

Child care—prohibits sale of toys containing hazardous substances and strengthens existing law covering household hazardous substances.

Measles

Physicians are asked by the Delaware Board of Health to promptly report all new cases of measles. This will assist in the evaluation of the measles vaccine use. More than 20,000 school and pre-school children received measles immunizations through June 30, 1966, in school or public clinics. A new program will begin in the schools in November to immunize children who have not previously been done, or clinically had measles.

FDA Rulings

The FDA has banned the manufacture of *antibiotic* throat lozenges sold over the counter without prescription. No substantial medical evidence of effectiveness has been found but neither are they found unsafe. The FDA is also reviewing a number of antibiotic ointments, deodorants, sprays and other preparations.

Southeastern Surgical Congress

Delaware has recently been admitted to the geographic area of the Southeastern Surgical Congress. Qualified surgeons may obtain application forms from J. R. McNinch, M.D., 113 S. State Street, Dover, Delaware. Initiation fees are \$50.00 for the first year and \$25.00 per year thereafter. This includes subscription to *The American Surgeon*. Annual meetings are held in Miami and other southern cities. Excellent programs are always presented.

CLINICAL NOTICES AND MEETINGS

American College Of Physicians

Course No. 6: *What the Internist should know about Cancer*, will be held Dec. 5-9, 1966 at the College of Physicians and Surgeons of Columbia University, New York.

The ACP will sponsor a 4-day postgraduate course on *Infectious Diseases*, December 14 through 17, 1966. It will be held in Scaife Hall Auditorium at the University of Pittsburgh School of Medicine.

Cardiology PG

The Institute for Cardiovascular Diseases is offering an intensive program on Auscultation of the Heart, Phonocardiography and Pulse Tracing, with special emphasis on the practical clinical applications. The meeting will be held at the Mountain Shadows Resort in Scottsdale, Arizona. For information write to William D. Nelligan, Executive Director, American College of Cardiology, 9650 Rockville Pike, Washington, D.C. 20015.

PG Course Hahnemann

The 17th Hahnemann Symposium will be held December 12-14, 1966, entitled *Renal Failure*.

General Internal Medicine, will continue to be held on Wednesdays, 1-4 p.m., through March.



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1. Riese, J. A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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Delaware Academy of General Practice

DELEGATES' REPORT — 1966 AAGP MEETING

American Academy of Family Physicians . . . The Millis Report . . . No Grandfather Clause. These were among the highlights of the 1966 Congress of Delegates Session of the American Academy of General Practice held in Boston this October.

The most significant development took place in the report of the Reference Committee on Constitution and By-Laws (masterfully chaired by Delaware's Henri Wendel). A resolution was passed by the House asking for an amendment to be submitted next year changing the name of our organization to the American Academy of Family Physicians. This name would be more in keeping with recommendations of the Millis Commission and the future of our Academy. Objections mostly from western states were based on the possible limitations of their practice (particularly surgery) in light of some AMA statements.

The Millis Commission was created by the AMA Board of Trustees and designated as the Citizens Commission of Graduate Medical Education. John S. Millis, Ph.D., the head of Western Reserve University was selected as Chairman. The AMA wanted an objective searching examination into the complexity, fragmentation, and inflexibility of today's graduate medical education. One of the noteworthy recommendations this group proposed was that the internship as such be abolished and replaced by a straight three year residency in comprehensive health care. By advocating such a program, the Commission is striving to insure adequate comprehensive training in all aspects of family care. As this new specialty evolves with its own boards, the feeling is that more medical students will be attracted to it as a career.

The entire report of this group will be published in *GP* starting with the December issue. I commend it to your attention—our

Board of Directors feels it will rank with the Flexner report in American Medical Education.

Because of the uncertainties of graduate training due to the implications of the above report, the House of Delegates decided to continue the one year of internship and three years of general practice as qualifying requirements for membership. Thus, graduates of approved medical schools prior to January 1, 1968 will be eligible after meeting these qualifications.

Congress Approves Core Content and Board Application

A historic step towards establishing a new specialty of family medicine was taken by the 1966 Congress in adopting the "Core Content of Family Medicine" prepared by the Committee on Requirements for Certification (CORC). In a separate, yet related, action, delegates also authorized resubmission of a preliminary application for establishing a board in family practice.

As outlined in the reports of the Chairman of the Board and of the Executive Director, a preliminary application for a certifying board was filed last February with Liaison Committee of the Advisory Board for Medical Specialties. (In 1965 the Board was authorized to initiate steps towards certification and report back to the Congress before being established.) After filing, the Academy was requested by the Committee to withdraw the application until reports of the Millis Commission and the AMA Ad Hoc Committee on Education for Family Practice were released.

In accordance with his request, the Academy's Board of Directors withdrew its preliminary application and will resubmit it in the near future. Meanwhile CORC, created

Continued on Page 364

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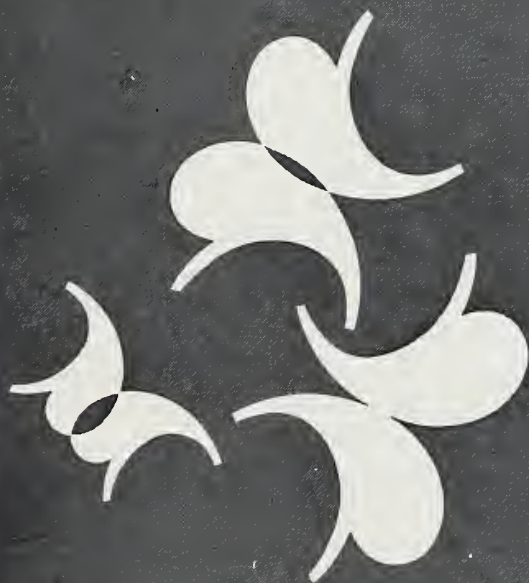
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by joint action of the Section on General Practice of the AMA and the Academy under the chairmanship of Dr. Carroll L. Witten, developed a definition of the core content of family medicine. The Committee's report was approved by the Congress and will be published in the November *GP*. This study *The Core Content of Family Medicine*, will form the basis for the Academy's final application for a certifying board.

These were the meat of the meeting. Other items of interest were:

- The voting down of a blanket "grandfather" clause.
- Granting the Board of Directors authority

to raise the annual dues up to a maximum of \$35.00 per year.

- Urging of continued opposition to dual fee schedules for prepayment or governmental plans.
- Creating a new Public Relations Committee to report directly to the Board of Directors rather than be a subcommittee.
- Continued Educational requirements will remain classed as "Prescribed" for fifty hour or "elective" for 100 hours instead of the confusing Categories I and II.
- Affirmation of the need for efforts to assure hospital privileges for any doctor commensurate with his proven ability.

NOTE THIS ON YOUR CALENDAR

The Fifteenth Annual Scientific Meeting of the Delaware Chapter of the Academy of General Practice should be marked with unusual excitement. This was promised by Dr. Philip Henneman, of the New Jersey College of Medicine, when he stated that he would engage Dr. Roy Hertz of the University of Georgetown, in a verbal battle on the pros and cons of *The Role of Estrogen Replacement*. To separate the combatants, will be the moderator, Dr. Oscar Stern.

The educators and nurses of our state are invited to our morning, as well as you, our medical colleagues. Dr. Leon Israel, of the University of Pennsylvania Hospital, and Dr. Eugene Linton, of the Bowman Gray School of Medicine, ably moderated by Dr. Robert Frelich, will discuss, as a panel, whether we are well enough prepared in sex education to meet the challenge of sex education as our patients are now demanding of us. It all sounds like a day to come early and stay late.

All physicians are invited, and need only to contact our executive secretary, Mrs. Anne Shane, 1925 Lovering Avenue, Academy of Medicine, Wilmington, Delaware, for your reservations for lunch and the evening cocktails, dinner and dance festivities.

Rhoslyn J. Bishoff, M.D., *Program Chairman*

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Auxiliary Affairs

REPORT OF THE PRESIDENT

Woman's Auxiliary to the Medical Society of Delaware

The Delaware Auxiliary though small in members—317 at the moment—is determined to strengthen its efforts to become an increasingly effective voice in the community.

One of our most successful Community Service projects this year was the organization of a pre-school vision screening committee for the early detection of Amblyopia. It was written up in the March issue, *Auxiliary Affairs*. The results were so successful, we intend to make this a permanent Community Service project.

Books, magazines and good used clothing were collected for the State Emily Bissell Hospital and we have staffed various positions at the State Mental Hospital. Three county auxiliaries assisted Public Health nurses and volunteer physicians in a statewide measles immunization program conducted by the State Board of Health. Approximately 6500 children received the measles vaccine and the gamma globulin shots.

The committee on Health Careers and Recruitment has had a busy, successful year. New Castle County members gave a Luncheon-Fashion Show at the Hotel duPont with the theme *The Doctor's Wife—Then and Now*, with authentic costumes dating from 1890 up to the present time. Our funds were enriched by \$1000 to give to scholarships. Sussex County, with only 34 members, raised \$200 by giving a Wig-Fashion Show and Luncheon, and an additional \$177 was realized through a planned New York City theater trip. A new scholarship is now being planned: *The Cook-Book*, which will feature the favorite recipes of Delaware physicians.

The Spring Conference in April was devoted almost entirely to A.M.A.-E.R.F. and we were fortunate in having Mrs. John Baybutt, Eastern Regional A.M.A.-E.R.F. Chairman, as our guest and speaker.

One special committee in New Castle Co., I think deserves mention. The *Operation Handclasp*, committee of New Castle County has been working on a "person to person" approach to meet the needs of foreign doctors and their families, coming to Wilmington for the first time. It was written up in the President's report and appeared in the May issue. To sum it up, they are to be commended for their success.

The Auxiliary also gave \$300 to the Delaware Academy Student Aid Fund. In Delaware where we have no Medical School, we like to give aid to those students studying medicine in other states.

Kent County has aided the "membership effort" by inviting all wives of doctors stationed at the Dover, Delaware Air Force Base, to be their guests at meetings and luncheons. Some of these women may join as associate members, and feel a part of a group, while their husbands are serving in the Air Force.

It has been a privilege for me to serve as president this year, and I feel as though we have gained in some areas, fallen back in others, but will keep striving to maintain our goals and plans for the future. We sincerely hope we have contributed something of value to the Medical Society of Delaware and to the community.

Mrs. John W. Barnhart

Address

TO THE MEDICAL SOCIETY OF DELAWARE

QUI MORIATAMUR SALUTEM

ANDREW M. GEHRET, M.D.

All physicians vigorously oppose socialistic, government controlled medicine. Until recent years, this statement has been a generally accepted fact. With the recent trend of affairs, I am wondering if this statement really holds good. Incidentally, any man who thinks he is going to be happy and prosperous by letting the Government take care of him should take a close look at the American Indian. Years ago, when the Jamestown colony was first settled, some of the colonists, for various reasons, expected to be supported by those who took the situation seriously. Captain John Smith took firm control. His dictum 'no work, no eat' soon had all members of the colony grubbing for subsistence and actual existence.

Few more intimate relationships exist, outside the family or the church than that of the average person with his physician. Today, most Americans get far better medical care than ever before; as for the rest, they are often lucky enough to get as much as a hurried smile. The result is a troubling paradox—patient relationship has badly deteriorated. It is a situation that both irritates the patient and worries the medical profession. Most people, laymen and physicians alike, have always had the idea, albeit quaint, that hospitals were built and maintained for the care of the sick. In this day and age, the

concept of medical education has forged into prominence. Unless a desperately ill patient falls into certain categories, i.e. an unusual illness *and* willing to accept the services of a strange hospital physician — whom he has never seen before — he may have to wait weeks or even months before a hospital bed may become available.

There are still some fiercely independent individuals, among the citizenry at large, who prefer to have a private physician and also to pay their own hospital bills. In the past, there have always been ward beds available for private patients who want to meet their own expenses and yet keep their bills to a minimum. These folks always had the privilege of treatment by their own physician, whom they have known and in whom they have had confidence. This is now almost a thing of the past. These same folks, when the occasion of illness arises, who insist on paying their own bills, but yet want to keep expenses down, must now, almost invariably tell their own friendly Doc to be on his way and place themselves under the care of a strange individual.

True, the patient in this group usually receives good medical attention, but the personal relationship is gone. He must, therefore, pay larger hospital bills for the privilege of being treated by his own physician whom he has

known over the years. Is the medical profession unconsciously forcing the patient to clamor for the above mentioned socialistic and governmental medicine?

In the year 1962, the minimum hospital charge for a 5-day stay for having a baby was \$195.40. In 1965, this charge had jumped to \$272.40. Just one year later, in 1966, the hospital fee is now \$352.40. True, the nurses have finally received a much deserved raise in pay. Is this all due to inflation or are there causes not mentioned. In the long run, it is the physician who bears the brunt of the blame for these rising costs.

In this day and age when hospital beds are at a premium, it is even more important that the patient be given priority to occupy any vacant hospital bed even if it is one that has been set aside for teaching purposes. And this patient should have the right to be treated by his private physician, if that is the

situation. This might possibly maintain a closer rapport between patient and physician.

In previous years there has always been great camaraderie and esprit de corps in all of the hospitals. To borrow a phrase, this camaraderie an desprit de corps now seems to be "Gone With The Wind."

A warning for today:

"Still, if you will not fight for the right when you can easily win without bloodshed; if you will not fight when your victory will be sure and not too costly; you may come to the moment when you will have to fight with all the odds against you and a precarious chance for survival. There may even be a worse case. You may have to fight when there is no hope of victory, because it is better to perish than live as slaves."

These are the words of Sir Winston Churchill.

AVE ATQUE VALE.



THE DISTINGUISHED SERVICE AWARD FOR 1966

Lewis B. Flinn, M.D., was the 1966 recipient of the Distinguished Service Award given annually by the Medical Society of Delaware in recognition of outstanding service and substantial contributions to medicine in the State of Delaware.

Dr. Flinn is a Wilmingtonian by birth and graduated from the Johns Hopkins University School of Medicine, Baltimore, in 1922. He served his internship at The Johns Hopkins Hospital.

He was a member of the Founding Committee of the Delaware Academy of Medicine and more recently, Vice President of the Joint Hospital Management Committee.

In the past, Dr. Flinn served as Director of Pediatrics, Memorial Hospital and Director of the Departments of Medicine at both Delaware and Memorial Hospitals. Since 1954,

he has been Chief Consultant in Internal Medicine at Memorial Hospital.

Dr. Flinn has served as President of the New Castle County Medical Society, the Medical Society of Delaware, the Delaware Academy of Medicine and the Medical-Dental Board of the Delaware Hospital.

He is a Fellow, American College of Physicians, and served as Governor for Delaware from 1933 to 1948. In 1955, he was awarded an Honorary Degree of Doctor of Science from the University of Delaware.

Presently, Dr. Flinn is a member of numerous medical societies and is on the Board of Directors of the Delaware Academy of Medicine, the American Diabetes Society, Home and Hospital for the Chronically Ill at Smyrna, and the Community Service Council. He is also a member of the American Clinical and Climatological Society.

PROCEEDINGS OF THE HOUSE OF DELEGATES, 1966

MEDICAL SOCIETY OF DELAWARE

The 177th Annual Session of the House of Delegates, Medical Society of Delaware, was called to order in the Treadway Inn, Dover, Delaware, on Sunday, September 25, 1966, at 2:00 o'clock p.m. Andrew M. Gehret, M.D., President, presiding.

Secretary Abbiss took the roll call and a quorum was declared.

A motion was made, seconded and approved to accept the minutes of the 1965 Session as published in the Delaware Medical Journal.

REPORTS OF THE OFFICERS AND STANDING COMMITTEES

(All reports were accepted as published)

REPORT OF THE SECRETARY

Joseph W. Abbiss, M.D., *Secretary*

Ten meetings including today's meeting were held during this past year. One meeting was scientific, eight were devoted to the transaction of business matters only and one held in October at Wilcastle Center. All business transacted by the Society has been recorded in the minutes as presented by the Secretary.

The total membership as of September 15 is as follows:

New Castle County	378
Kent County	34
Sussex County	60
Total	472

REPORT OF THE TREASURER

Allen D. King, M.D., *Treasurer*

A Treasurer's report is appended. Exhibit "A" represents the Society's position as of December 31, 1965. This is in accord with Haggerty & Haggerty, C.P.A. audit. The proposed budget for the year 1967 is submitted on Exhibit "B".

TREASURER'S REPORT

December 31, 1965

Bank Balance — December 31, 1964\$ 5,817.86

OPERATING RECEIPTS

	Budgeted	Actual
Dues	\$30,600.00	\$30,888.00
Exhibits	960.00	1,105.00
Grant for annual meeting		250.00
Dividends and Interest	1,675.00	2,523.04
DMJ overhead contribution	980.00	
Banquet	1,400.00	1,127.50

Misc. 143.00

TOTAL OPERATING RECEIPTS\$35,615.00 \$36,036.54

CONTRA RECEIPTS Budgeted Actual

AMA Dues\$18,675.00 \$18,315.00

AMA Dues Rebate 186.75 183.05

Scholarships 2,125.00 2,140.00

DMJ — Subscriptions 1,275.00 1,287.00

\$22,261.75 \$21,925.05

CONTRA DISBURSEMENTS

AMA Dues\$18,675.00 \$18,315.00

AMA Dues Rebate 186.75 182.69

Scholarships 2,125.00 2,000.00

DMJ — Subscriptions 1,275.00 1,257.00

\$22,261.75 \$21,754.69

Balance from Contra Funds
held in account \$ 170.36

OPERATING DISBURSEMENTS

Personnel

Salaries\$21,100.00 \$21,347.89

Payroll Taxes 534.75 513.60

Hospitalization (Steno) 70.08 70.08

\$21,704.83 \$21,931.57

Budgeted Actual

Plus Dec. 1964 taxes withheld
from gross pay and paid in
1965 \$ 331.97

Less Dec. 1965 taxes withheld
from gross pay to be paid in
1966 439.79

Office Operation

Contribution to Academy\$ 2,100.00 \$ 2,100.00

Printing, Post., Stat. 1,500.00 1,498.50

Tel & Tel. 750.00 883.03

Audit 400.00 375.00

Misc. 500.00 913.73*

\$ 5,250.00 \$ 5,770.26

*Includes \$106.40 for new addressograph equipment
and cost of bond and capital equipment \$290.00

Travel and Expenses

AMA Delegate\$ 440.00 \$ 929.74*

AMA-MSEA Conf. 265.00 114.32

AMA Institute 185.00

MSEA Institute 200.00 160.75

Local 500.00 209.94

Contingency 250.00 391.68

\$ 1,840.00 \$ 1,806.43

*Includes 2 Special Sessions for Delegate
Annual Meeting

Stenotyping\$ 150.00 \$ 87.00
Printing 200.00 228.75
Prospectus 65.00 62.50
Supper, House of Delegates 185.00 132.35
Banquet 1,300.00 1,301.70
Banquet Entertainment 500.00 80.00
Guest Speakers 700.00 1,080.25
Freight Charges 100.00
Wiring 50.00
Porters 50.00
Clerical Help 45.00 16.00
Janitorial Help 25.00 17.38
Miscellaneous 194.60

\$ 3,370.00 \$ 3,200.53

Subscriptions, Contributions and Dues

AMA — Aces & Deuces\$ 40.00 \$ 40.00
Conf. of Pres. 25.00 25.00
MSEA 20.00 10.00
Del. State C of C 50.00 50.00
Sheeron Legis. Service 18.00
Better Business Bureau 35.00
Contributions 27.50

\$ 203.00 \$ 237.50

Operations of Committees\$ 1,500.00 \$ 1,275.21
Contingency for Committees 500.00

TOTAL OPERATORS

DISBURSEMENTS \$34,113.68

Reimbursible Expenses\$ 5,023.20
Reimbursed Expenses 4,405.39

Balance Due \$ 617.81
Bank Balance —
December 31, 1965 \$ 7,293.27

COMMITTEE ON BUDGET

Allen D. King, M.D., *Chairman*

The Committee on Budget has met, reviewed the expense and income of the Society for the year past and the audit report for calendar 1965, and has discussed the needs of the Society for the year to come. We recommend adoption of the following budget for calendar 1967:

RECEIPTS

Dues\$30,744.00
DMJ-Subscriptions 1,281.00
Scholarships 2,130.00
AMA Dues 18,315.00
AMA 1% Coll. Rebate 183.05
Exhibits & Grant (250.00) 1,290.00
Dividends and Interest 2,774.80
DMJ overhead contributions 980.00
Banquet 1,160.00
Total\$58,857.85

CONTRA

AMA Dues\$18,315.00
AMA Dues Rebate 183.05
Scholarships 2,130.00
DMJ-Subscriptions 1,281.00
Total\$21,909.05
WORKING BALANCE\$36,948.80
DISBURSEMENTS
Personnel\$21,380.00
Payroll Taxes 713.16
Blue Cross-Blue Shield 179.78
Total\$22,272.94

Office Operation

Contribution to Academy\$ 2,100.00
Printing, Postage, Stationery 1,520.00
Telephone and Telegrams 885.00
Audit 375.00
Miscellaneous 785.00
Total\$ 5,665.00

Travel and Expenses

AMA Delegate\$ 720.00
AMA-MSEA Conference 275.00
AMA Institute 375.00
Local 500.00
Contingency 750.00
Total\$ 2,620.00

Annual Meeting

Stenotyping\$ 87.00
Printing 250.00
Prospectus 62.50
Supper, House of Delegates 350.00
Banquet 1,320.00
Banquet Entertainment 100.00
Guest Speakers-Expenses 1,150.00
Freight Charges 100.00
Wiring 50.00
Porters 50.00
Clerical Help 45.00
Janitorial Help 25.00
Miscellaneous 100.00
Total\$ 3,689.30

Subscriptions, Contributions and Dues

AMA-Aces and Deuces\$ 40.00
Conference of Presidents 25.00
Delaware Better Business Bureau 35.00
Medical Society Executive Association 20.00
Delaware State Chamber of Commerce 50.00
Delaware State Science Fair 50.00
Shearon Legislative Service 18.00
Presidents and Presidents-Elect 10.00
Contributions-Contingency 100.00
Total\$ 348.00

Operations of Committees
and Contingency Funds\$ 2,353.36
TOTAL DISBURSEMENTS\$36,948.60

THE PROGRAM COMMITTEE

Otaker J. Pollak, M.D., *Chairman*

The Program Committee for the Annual Meeting consisted of Drs. Richardson B. Glidden, Otakar J.

Pollak (chairman), and Arthur F. Zimmerman, all of Dover and all representing the Kent County Medical Society.

The Committee accepted the chairman's proposal with regard to the type of program, at its first meeting held in November of 1965. In spite of multiple refusals of invited speakers because of other commitments and in spite of the slow-paced correspondence of others, the program was completed by the middle of April, 1966 and presented to the President of the Medical Society of Delaware for approval.

Several members of the Society made helpful suggestions and aided in contacting speakers. This is hereby gratefully acknowledged. The outstanding aid by Mr. Morris and, later, by Mrs. Shane deserves special mention and appreciation.

COMMITTEE ON PUBLIC LAWS

William O. LaMotte, Jr., M.D., Chairman

The Committee on Public Laws held two formal meetings during the past year, and in addition had numerous personal contacts by its members with other committees of the society, with state and national legislators, and with various state and voluntary agencies on matters involving health legislation.

The subject matter with which the Committee was concerned included the following:

Senate Bill 287 proposed to include chiropractors under disability insurance, workmen's compensation, standard health and accident insurance, and (by name) Blue Cross-Blue Shield. In reference to the latter, the committee felt that such coverage would infringe upon freedom of contract in a plan which was developed to pay hospital and medical expenses, and further that potential changes in utilization might result in undesired rates or contract changes. In the consideration of the total bill, the committee further felt that the forced inclusion of chiropractic services might tend to increase public confusion as to the nature of these services. For these reasons, the Committee recommended that the Society oppose Senate Bill 287. This bill was reported out of committee but has not been brought to the floor of the Senate for a vote.

House Bill 246 proposed to re-define "public employee" to mean any employee of a governmental entity, excluding only persons elected to public office. The practical effect of the bill would be to force professional persons into trade unions should the agencies which employ them enter into closed shop agreements. The committee felt that the average physician working for the government would find membership in a trade union neither desirable nor necessary, and therefore, voted opposition to House Bill 246. While this bill did pass the House on February 17, 1966, there is no word of any action by the Senate.

House Bill 446 was introduced at the request of the Association of Physical Therapists as a mandatory licensing law similar in principle to the mandatory licensing law sponsored successfully (and with Medi-

cal Society support) by the State Nurses Association in 1963. The Committee saw two defects in the bill, one part deleting the present requirement that "physical therapy" be under the prescription and direction of a physician, and another obscuring the right of the physician to delegate work of this kind within his office. The Committee voted to support mandatory licensing in principle but that the definition of physical therapy as a discipline to be carried out on prescription should not be changed, and that the right of the physician to delegate within his office should be protected. These recommendations were transmitted to the Association of Physical Therapists and to key legislators. House Bill 446 has not been voted on by the House.

House bill 488 concerned changes in the law concerning epileptics and automobile driving licenses. The existing statute requires certification of a known epileptic for licensing only by the State mental hygiene clinic. Numerous conferences were held with Representative Bartleson, who was interested in changing the arrangement, and with concerned and expert members of the Society. House substitute No. 1 for House Bill 488 was signed into law in June 1966 essentially achieving the goals of the interested parties, namely to remove the certification for licensing from the state's two mental hygiene clinics, and place the certification in the hands of two physicians, with certain other safeguards as to annual recertification by physicians, etc.

Probably the most important legislation was that which implemented on a state level the far-reaching Title XIX of Public Law 89-97 on a national level. This is the portion of the Social Security Amendments of 1965 which expands the principle of medical indigency as under Kerr-Mills to the under-65 population. The state enabling legislation has become law and provides for the program to begin on October 1, 1966. This was accomplished by Senate Bill 292 which spelled out the program and by Senate Bill 293 which created the financing mechanisms, both of which the Medical Society helped to develop and, of course, supported. By October 1, the new program will replace the old medical programs under OAA and MAA, and will cover in addition, the other categorical indigent in the state (namely those on Aid to the Blind, Aid to the Disabled, and Aid to families with dependent children), and all those who might fall into those categories except for their cash position, should they have to assume health costs beyond their determined means. These groups will be covered in six basic categories of health services:

- 1) In-patient hospital services
- 2) Out-patient hospital services
- 3) Other laboratory and x-ray services
- 4) Skilled nursing home services for individuals 21 years of age or older
- 5) Physicians services, whether furnished in the office, home, hospital, nursing home, or elsewhere.

6) Drugs.

Certain basic requirements important to medicine and to the patient are being worked out with the State Department of Public Welfare, the agency charged with the operation of this program. These include:

- 1) An experienced third party; namely, Delaware Blue Cross-Blue Shield, Inc., will operate the medical aspects of the program as a fiscal agent and serve as a buffer between the providers of services and the state agency.
- 2) Services will be provided on a reasonable cost or reasonable charge basis.
- 3) The income levels of potential recipients of services will be kept at such levels as assure the program to be what is intended a program for the truly medically indigent.
- 4) Because of the danger of future expansion to higher and higher income groups, effort is being made to preserve the right and principle of direct billing by the physician, even though a properly operating program as we now envision it will probably be served best at this time by the assignment mechanism.

The members of the Society are urged to familiarize themselves with this program, and in view of the efforts to implement it within the framework of the private practice structure which we wish to preserve, to cooperate fully and with patience and understanding as the program gets under way.

Thanks are due to all the members of the Committee and to other members of the Society who have been so helpful throughout the year, and of course, to Mr. Lawrence Morris and to Mrs. Anne E. Shane without whose efforts the work of this Committee would have been impossible.

REPORT OF THE PUBLICATION COMMITTEE

Report of the Editor

A. Henry Clagett, Jr., M.D., *Chairman*

As my report of Editor for the year 1966 I respectfully submit an editorial published in the August issue of the Journal.

In addition to material contained in this editorial, I merely wish to report that the Publications Committee has unanimously recommended that Doctor Robert B. Flinn be appointed to the Publications Committee as Chairman, and also be appointed the next Editor of the Journal.

ACTING BUSINESS MANAGER'S REPORT

Mrs. Anne Shane

A.

Statement of Receipts and Disbursements, issues of August, 1965 through July, 1966.

RECEIPTS

Advertising	\$15,729.68
Subscriptions	1,465.50
SMJAB—working fund rebate	712.11
Reimbursed expense, including reprints	260.50

Interest	43.75
Roster Sales	25.00
Single Copy sales	11.00
TOTAL RECEIPTS	\$18,247.54

DISBURSEMENTS

Salary	\$ 3,050.00
Payroll Tax	120.91
Printing of Journal	15,233.45
Miscellaneous Printing	268.21
Photographs and Plates	333.01
Conferences	218.57
Postage Account	225.30
Addressing	123.75
Dictaphone repairs	37.00

TOTAL DISBURSEMENTS	\$19,610.20
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Operating Loss	\$(1,362.66)
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B.

Saving Account

Balance (with accrued interest)	
August 1, 1965	\$ 6,125.48
Deposits or Withdrawals	None
Interest Accrued	245.00

Balance (with accrued interest)	
July 31, 1966	\$ 6,370.48

C.

Assets

Operating Account	\$ 1,364.25
Saving Account	6,370.48
U.S. Treasury Bonds	3,502.38

Total	11,237.11
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Less: Owing to Medical Society of Delaware	1,601.89
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Net Assets	\$ 9,635.22
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REPORT OF THE WOMAN'S AUXILIARY

Mrs. John W. Barnhart, *President*

This report was published on the Auxiliary Affairs page of the November issue of the Journal.

REPORTS OF SPECIAL COMMITTEES

(All reports unless noted otherwise were accepted as published)

THE ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

J. W. Barnhart, M.D., *Chairman*

There has been no call upon me as Advisor to the Woman's Auxiliary during the past year due to the capable assistance of Lawrence C. Morris, Jr., Executive Secretary, who was able to give whatever help was needed.

COMMITTEE ON AGING

Allston J. Morris, M.D., *Chairman*

The Committee on Aging held no meetings during the past year and, therefore, has no report.

COMMITTEE ON AMA-ERF

G. K. Berger, M.D., *Chairman*

I. Fund collection: As a State we did very well on a statistical basis of monies collected per capita for the AMA-ERF Foundation. This was discussed with Mr. T. R. Chilcoat, Field Service Representative for AMA. He was well pleased with the fine feeling evidenced by doctors toward the education loan programs, funds for medical schools, etc.;

II. I had a personal talk with Mr. Lawrence C. Morris, Jr. and Mr. T. R. Chilcoat which was most illuminating. The discussion led to the following set-up for the AMA-ERF Committee for the coming year. I feel much hope for fine success for this program as follows:

a) We found physicians knew of certain programs of the AMA-ERF Foundation but were unaware of the whole picture and its philosophy nor some of the finer details of its activities or the newer Foundation interests.

b) I learned a great deal more about the new Biomedical Research Center in Chicago and am going there this September to talk with several of the physicians involved in the research and I will have more to report regarding this aspect of the AMA-ERF Foundation.

c) I sent personal letters and new literature to the Committee members elucidating the general work of the AMA-ERF with more detailed particulars concerning the various aspects of the Foundation in order that those would be more helpful to physicians when making inquiries.

d) This year one or more articles will be published in the Delaware Medical Journal regarding the research program, loan programs and the other activities of the Foundation. These articles will be prepared in conjunction with Dr. Lyman Smith—Director of the AMA-ERF program.

e) I will address one of the New Castle County meetings to discuss the Institute for Biomedical Research.

I see our Committee doing as well if not better in the coming year as to collection of funds and disseminating of information regarding the AMA-ERF Foundation.

COMMITTEE REPORT ON EDUCATION

Leonard P. Lang, M.D., *Chairman*

During the past year the Medical Society of Delaware through this Committee sponsored a Visiting Internist Program at the Nanticoke Hospital. Twice each month a Visiting Internist presented a designated topic and lead an informal discussion at a luncheon meeting. Comments from speakers and from the physicians who attended were uniformly favorable and it was hoped that the program can be

continued this year. The costs of the program were underwritten by the Delaware Heart Association and the State Board of Health.

A symposium on *Ethics and Morality in Medicine* is being planned for March 1967. The speakers have been secured and this should prove to be a stimulating and timely topic.

THE GRIEVANCE BOARD

Willard F. Preston, M.D., *Chairman*

The Grievance Board reviewed two cases this year. The plaintiffs were interviewed in both instances and both cases were satisfactorily settled.

REPORT OF THE COMMITTEE ON MATERNAL MORTALITY

John M. Levinson, M.D., *Chairman*

During 1965 there were 10,529 live births and 3 maternal deaths in the State of Delaware. This gives a rate of 2.8 per 10,000 which compares favorably with the national rate of 3.4 maternal deaths per 10,000 live births in 1964. (The latest national figures available).

All three maternal deaths occurred in patients who had had good prenatal care, and who had been delivered by Cesarean section. One patient died seventy-one days after Cesarean section, having had further surgery and extensive medical care during this period of time; succumbing eventually to infection. Another patient died of hemorrhage associated with a placenta abruption. The last patient died secondary to complications of placenta abruption and toxemia of pregnancy. Inasmuch as all of these deaths occurred in New Castle County, it has been decided to discuss any preventable aspects at a future meeting of the Wilmington Medical Center's Obstetrical meeting. In this way, the greatest number of physicians may benefit from suggestions offered.

COMMITTEE ON MEDICAL ECONOMICS

Davis G. Durham, M.D., *Chairman*

A meeting of the Medical Economics Committee was held on August 1, 1966, with the purpose of discussing the proposed change in the Delaware State Medical Society Group Keogh Plan as administered by PRO, Incorporated. These changes as recommended by PRO are for the purpose of securing lower costs, better diversification, better flow of funds and more flexibility to the plan.

A decision has not been possible with PRO, Incorporated as their recommendations, have not been submitted to date for final approval on the suggested changes. Therefore, at this time the Committee has unfinished business which will be concluded and submitted to the Council in the next few months.

COMMITTEE ON MEDICAL SCHOLARSHIPS

Gordon Keppel, M.D., *Chairman*

The Medical Scholarships Committee met twice during the early summer of 1966. Mr. Richard Bonder of Wilmington was awarded a full grant of \$2,000 and Mr. Joseph F. Hahn, also of Wilmington, a \$500 grant for the academic year 1966-67.

COMMITTEE ON A MEDICAL SCHOOL FOR DELAWARE

James E. Marvil, M.D., *Chairman*

As authorized by the 1965 House of Delegates of the Medical Society of Delaware, a non-profit corporation has been formed for the purpose of collecting funds to establish a medical school for Delaware. Mr. David Anderson, attorney for the Medical Society, filed papers of incorporation for the Medical School for Delaware Foundation, June 27th, 1966.

An organizational meeting was held in Dover, July 21, 1966 and the following officers were elected: James E. Marvil, M.D., President, Harry W. Lynch, Sr., Vice-President, Charles Levy, M.D., Secretary and Treasurer. As provided for in the charter, the Council of the Medical Society of Delaware appointed the following seven trustees for the term of one year: Drs. James E. Marvil, Leonard Lang, James T. Metzger, Frank O'Brien, Charles Levy, Howard Wilk and Otaker Pollak. William Feinberg, Drs. Andrew M. Gehret and James Beebe, Jr., and Harry W. Lynch, Sr., Edmund H. Harvey, W. Emerson Wilson have also been elected as trustees. The University of Delaware has the right to appoint two trustees and the Governor of Delaware has the right to appoint one trustee. They have been notified of their rights. A total of twenty trustees may be elected.

Plans are under way at present to prepare educational material for distribution in regard to the purpose of the foundation.

COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

David A. Levitsky, M.D., *Chairman*

Doctor's House Call:

The year 1966 has revealed a continued success of "Doctor's House Call" radio program. All physicians participating seemed to have enjoyed the program and whatever feed-back we have been able to obtain from the general public has been favorable. Continuation of this program has been planned for the forthcoming year.

Future projects:

A program initiating a medical explorer troop in Wilmington is to be established. At the present time this program is strictly in the planning stages. The aims of this troop are to (1) provide for the high school students of Wilmington, an opportunity to familiarize themselves with the medical profession as a whole. (2) Allow them to learn how a free medical profession functions. (3) Arouse interest and familiarize the student in ways of obtaining training in the medical profession. Enlargement of this program is envisioned if the first troop is successful.

COMMITTEE ON MEDICARE ADJUDICATION

Sidney Stat, M.D., *Chairman*

The Committee on Medicare Adjudication has con-

sidered nine claims during this past year. Six were resolved in favor of the physicians.

The first involved a claim for a left tympanoplasty with reconstruction of the ear canal. The Committee felt that the fee requested by the surgeon was not compatible with the general level of Medicare fees.

The second case involved was a craniotomy with evacuation of subdural abscess and brain abscess of left motor parietal region. The Committee again reviewed the operative report and came to the conclusion that the fee requested by the surgeon was fair, and recommended that it be paid by the Government.

The third claim involved was a left tympanoplasty type #3. The Committee felt that the surgeon's fee was high for a patient of the financial position of the average military dependent.

The fourth claim involved the removal of foreign body from left knee, under fluoroscopic control. The Committee felt the fee was reasonable in view of the special preparations necessary for fluoroscopic control and recommended that the Government pay this claim.

Again the Committee was called upon to adjudicate a claim wherein a patient was admitted to the neurological service for tremors of undetermined origin and the physician worked her up fully with respect to liver disease, dysphagia and the diarrhea. Much of this work was done as a consultant, and in view of the fact that a sigmoidoscopy was included in the charge for hospital visits, the Committee felt that the total charge was not unreasonable and recommended that it be paid by the Government.

The sixth claim involved was for a right tympanoplasty with reconstruction to try to improve and conserve hearing. The Committee felt that the fee, as requested by the surgeon, represented compensation which was reasonable and compatible with the general level of Medicare fees and recommended that the Government pay the amount requested in satisfaction of the surgeon's claim.

The seventh claim was for a right tympanoplasty #3. The Committee felt that the fee requested was not compatible with the general level of Medicare fees, nor reasonable for the income level of the average Medicare dependent.

Another claim involved application of splint—40 sutures, and suture of avulsed tissue in place as skin graft. The Committee felt that the surgeon's fee was reasonable considering the extent of the injury and the amount of work, including plastic surgery that was necessary and recommended that the Government pay the amount requested.

Finally the Committee was called upon to review the fee charged for a right tympanoplasty type #1. The Committee reviewed the operative report and came to the conclusion that the fee requested by the surgeon was fair, and recommended that it be paid by the Government.

COMMITTEE ON MEDICO-LEGAL AFFAIRS

James T. Metzger, M.D., *Chairman*

The Medico-Legal Committee, in conjunction with its counterpart representing the Delaware Bar, has been increasingly active. An editorial on *Some Practical Solutions to the Malpractice Problem* will be published in the journal *Plastic and Reconstructive Surgery* shortly. This article was solicited and describes the background and present functions of the joint committee. Reprints will be forwarded as soon as available.

A Medico-Legal Symposium was held at the Academy of Medicine with Dr. Sidney Shindell as principal speaker. Dr. Shindell spoke primarily on financial matters relative to litigation.

A part-time secretary, Miss Janet C. Butler, is assisting the Committee in stenographic duties with compensation by contributions from both the Bar and Medical Society.

The Malpractice Screening Panel has been very active and has been helpful to the Bar and has afforded a good deal of protection to our own members.

It is requested that the Committee on Medico-Legal Affairs receive an annual budget of \$1,000.00, and that this amount be matched by a contribution from the Delaware Bar. The fund should be transferred to a separate bank account under the listing of "Medico-Legal Committee of the Delaware Bar Association and the Medical Society of Delaware". Checks on this account should be drawn only by the co-chairman. This arrangement would provide for an expeditious way for payment of postage and secretarial costs, which are rising. I believe this expenditure would be very justified, and I request that it be carefully considered by the membership.

It was moved and seconded that the report be received, with any action on its recommendations being left to the council.

REPORT OF THE COMMITTEE ON RELIGION AND MEDICINE

Robert L. Dewees, M.D., *Chairman*

The Society's Committee on Religion and Medicine was relatively inactive this year due, in part, to the fact that our executive secretary Mr. Lawrence C. Morris, Jr., left early in June of this year.

In April of this year the Committee members and others were guests of the Weems Foundation at a very pleasant cocktail and dinner meeting to honor the Reverend Mr. Edwin Shotton from London, England, who was visiting this country as the guest of the Weems Foundation. Reverend Shotton's particular interest is in the teaching of religion as it relates to the practice of medicine to medical students in England, and his visit in this country was primarily designed to visit areas where active seminars on religion and medicine were going on.

He gave us an interesting short summary of the activities of the London medical group of which he

is at present the Executive Director.

This year's Committee like last year's again noted that there is a general feeling the communication between physicians and clergyman could be improved but the Committee is somewhat at a loss to know how to go about this.

In May of this year the Committee Chairman, Mr. Lawrence Morris, and Mr. Mel Jewett from the Council of Churches had a luncheon meeting at which this problem was discussed. Mr. Jewett promised to make recommendations of a few names of clergyman who might be interested in forming a joint committee with physicians to further pursue this matter; however, it was at this point that Mr. Morris left Delaware for Chicago so that no followup has occurred of this activity.

It is the Committee Chairman's feeling that there is need for additional communication between physicians and clergymen but that not much will happen along these lines unless some person or persons really push the activity.

REPORT OF THE COMMITTEE ON PREPAYMENT

Lemuel C. McGee, M.D., *Chairman*

R. Douglas Sanders, M.D., *Co-Chairman*

In October, 1965, the Committee received a request to extend the prevailing fee program (used since August 1, 1965 by local Chrysler employees) to Federal employees in the state. The Federal Employee Program was estimated to involve approximately 7,000 individuals, distributed 30% in New Castle County, 50% in Kent County, and 20% in Sussex County.

The following action was taken:

"That the Prepayment Committee inform the Council that it had considered extension of the prevailing fee program to the federal employees group. It feels that the addition of an additional employee group to this pilot program would be premature, and might provoke additional and unnecessary resistance to the prevailing fee concept if done at this time. Furthermore, the Committee is of the opinion that the limited experience with the program to date does not permit the drawing of valid and final conclusions. However, the Committee is aware of the possible benefits to the medical profession of adding the FEP group, particularly in that it would provide considerably increased experience in Sussex and Kent Counties. In view of the potential heavy involvement in these counties, the Prepayment Committee recommends that the Council explore the proposal in depth with responsible representatives of the Kent County Medical Society and the Sussex County Medical Society. If these two societies believe that the broadened base would be beneficial, the Prepayment Committee would recommend the inclusion of the FEP group in the prevailing fee program."

The Council received the recommendation, approved it, and referred it back to the Kent and Sussex Societies for their reaction. The Kent Society

appointed a committee of Drs. Glidden, Jones, Leitinger, Mercer and Zimmerman to speak for it. This Committee met on December 9, and stated unanimously that it felt that the experience would be good for the County, and that it favored the inclusion of the Federal employees so that the experience could be acquired.

At the December meeting of the Sussex County Medical Society, Dr. William B. Cooper, a member of the Prepayment Committee, presented the question. By a majority action of those present, the Sussex Society recorded itself as willing to have the federal employees added, again for the express purpose of acquiring experience.

On October 28, the Prepayment Committee was informed by Blue Shield that if the Federal employees could not be included by January 1, 1966, it would be necessary to wait until January 1, 1967. Since that time, a representative of the U.S. Civil Service Commission agreed that the Commission will probably be willing to amend the contract for an effective date of March 1 or April 1 if the Prevailing Fee Program becomes available to it.

If the Prepayment Committee recommends the inclusion of the Federal employees, and if the Council accepts this recommendation at its January 27 meeting, a March 1 or April 1 starting date is probably practical.

The January 18, 1966, Wall Street Journal commented on the initial plan (Chrysler) as follows:

"Most of Delaware's 480 physicians are participating in a nationally significant experiment in self-restraint. Unlike their counterparts in most other states, doctors here are setting their own fees for Blue Shield health insurance provided by a bit employer.

"The Blue Shield plan covering the 5,700 workers at Chrysler Corp.'s auto assembly plant at nearby Newark provides that each doctor devise his own fee schedule for dozens of different medical services. If his charges fall within the range of those charged by nine of every ten of the rest of the state's physicians, he can count on payment in full by Blue Shield. Chrysler employees, in turn, can be confident that their employer-paid insurance will completely cover their doctor bills. All told, 22 specialty groups and more than 600 medical treatments are involved, ranging from sophisticated brain surgery to stitching a cut finger."

At its January 27, 1966, meeting, the Council of the Medical Society of Delaware, approved the recommendation of the Prepayment Committee authorizing Blue Shield to offer the prevailing fee program to holders of the Blue Shield federal employee contract.

As of January 31, 3632 claims had been processed under the prevailing fee program, without significant difficulty.

Federal employees were offered the new program as of April 1, 1966.

From Minutes, Committee on Prepayment meeting, April 13, 1966:

"Dr. Sanders stated that the purpose of the meeting was to have an informal discussion with Blue Shield about the progress of physicians' payments under Part B of the Medicare Act, primarily to be helpful to each group.

"Mr. Davis said that the immediate problem of Blue Shield was to arrive at determinations of 'reasonable charges' in conformity with the 'customary' and 'prevailing' criteria of Social Security. He said that Social Security had established that differences in charges by specialists and non-specialists and differences between economic areas as considerations which would require some refining of the data available from the prevailing fee survey. However, Blue Shield plans to use the prevailing fee surveys in their determination of 'customary' (individual physicians') charges. He felt that the prevailing fee program might also provide information on the usual fee of the community, but if this was administratively unacceptable to SSA, charge information from Blue Shield's regular contracts might have to be used. The question arose from the requirement in the statute that the charge be 'not higher than the charge applicable, for a comparable service and under comparable circumstances, to the policyholders and subscribers of the carrier.'

"Mr. Davis said further, that the sampling of procedures for UAW employees did not seem to be particularly appropriate for the over-65 population and that some resurvey of percentiles taking specialty into account will also be necessary. This will be particularly important in the area of consultations, and it will also be necessary, to some extent, to establish more homogeneous groupings for surgical and for medical consultations."

From Minutes, Prepayment Committee, June 14, 1966:

The meeting was informal and informational. No formal actions of the committee were required, nor were any taken.

"Mr. Davis said that Blue Cross-Blue Shield now felt that the data developed by the Prevailing Fee Program were adequate for purposes of implementation of Part B of Medicare, with the exception of home and office visits. He stated that the Plan expected to use a relative value scale to indicate normal ranges of 'reasonable' fees for those procedures not developed by surveys. He said that the Plan felt that the ninetieth percentile was statistically valid as a top of the payment range.

"He pointed out that pursuant to the statutory and regulatory requirements there will be separate ranges for separate specialty groups. This will, of course, affect the tops of the ranges for certain procedures that are done in more than one specialty. It was expected that use of the prevailing fee data would meet the criteria of comparability of Medicare benefits with benefits of pre-existing contracts.

"Mr. Davis asked advice on the question of

determining proper fees for home and office visits. It was felt that the plan could probably calculate these by using a relative value scale. However, it was the consensus of those present that the Plan would be well-advised to make a separate survey of home and office visits, and to base its payment on information obtained from this survey.

"It was explained that the 'fill' plans will pay charges incurred during the first two days of inpatient hospitalization, but will not pay for home or office care. It was also stated that Delaware will be considered one economic area for Medicare purposes.

"Mr. Davis said that Medicare requirements called for each physician to be identified by one code, and that there was some question as to what effect this might have upon bookkeeping procedures in offices where receipts are merged. The Committee felt, in general, that it would not create a very considerable problem."

Information on the experience of the prevailing fee program for the period August 1, 1965 to July 31, 1966, and as furnished by the office of the Group Hospital Service, Inc., is as follows:

8960 Claims "paid in full" to participating physicians

413 Claims paid to subscriber — submitted by non-participating physicians

9373 TOTAL CLAIMS

95.57% of total claims "paid in full" to participating physicians

Medical Review Committee

20 Claims reviewed for Special Consideration

10 Claims reviewed for Individual Consideration

19 Claims were Administrative problems

49 TOTAL CLAIMS

REPORT OF THE COMMITTEE ON SCHOOL HEALTH

Edward F. Gliwa, M.D., *Chairman*

During the past year, members of the School Health Committee as well as members of the Society, have worked to improve the health of the school-age child by serving on various committees participating in programs dealing with school health. We are pleased to report that the scientific program of the 1966 Annual Convention of the Delaware Congress of Parents and Teachers was devoted entirely to Health Education. Delaware was fortunate in having as the keynote speaker for this convention Dr. Elena Sliepcevich, a noted authority in this field. Members of our Society also took an active part in the program. We would further like to acknowledge that the success of this excellent program on Health Education was attributed to the fine leadership demonstrated by one of our auxiliary members, Mrs. Robert Frelick, State P. T. A. Health Chairman.

We have also been active on the School Health

Advisory Committee of the State Board of Education and have had conferences with the State Superintendent of Public Instruction to discuss matters of mutual interest, one of which was to discuss ways in which our Society could help in securing for the Department a budget appropriation for a State School Nurse Supervisor to coordinate and give direction to the over one hundred thirty (130) School Nurses employed by the Local Boards of Education. In view of the fact that the State Board of Education has not requested our direct help in securing budgetary appropriation for this position, we can only assume that the Board of Education does not consider this matter as one of their priority budget items. In light of this, your Committee wishes to present the following resolution and moves for its adoption:

WHEREAS the Local Boards of Education now employ over one hundred thirty (130) Nurses to serve in the Public Schools; and

WHEREAS this large group of professional staff works without adequate health supervision, resulting in the individual school nurse functioning independently, even within a given district, with little coordination or guidance as to program objectives and goals; and

WHEREAS the Delaware Nurses Association has officially supported the creation of a School Nurse Supervisor for the State; and

WHEREAS it is believed that a School Nurse Supervisor would best function under adequate and competent Medical Supervision; and

WHEREAS the State Board of Health has acquired many years of experience in the field of School Health, as it relates to Public Health and has Medical Personnel qualified to give proper direction to a Nurse filling such a position; and

WHEREAS the health of the school-age child is of concern not only to the school authorities, but to the Board of Health as well, and realizing that the programs of both agencies should be well correlated to assure the community of an effective, over-all public health program, as it relates to the school-age child: Therefore be it . . .

NOTE:

For the final wording and adoption of this resolution, see Resolution No. 1 at the end of the Proceedings Report.

REPORT OF THE COMMITTEE ON UTILIZATION OF FACILITIES

William D. Shellenberger, M.D., *Chairman*

This report was presented to the members of the Medical Society of Delaware through its publication in the May issue of this Journal.

COMMITTEE ON VENEREAL DISEASE

Norman L. Cannon, M.D., *Chairman*

This committee has met on several occasions during the past year to discuss the VD control problem in Delaware. The chairman and Dr. Porter

did attend a meeting on VD control in Chicago and brought back a number of recommendations relevant to developing a program of VD control in Delaware by increasing the effectiveness of reporting and treatment. Two areas have been developed during the past year. One has to do with a proposal to amend the Delaware code to grant immunity in reporting venereal diseases, or the suspicion of venereal disease, by name of patients, particularly when based on Laboratory reports. Confidentiality is to be assured, but in the interest of adequate case and contact findings, named reporting is necessary and the doctor so reporting must be protected by the law. A proposal for this revision was referred to the committee on legislation. The second has to do with development of a schema for processing patients with reactive serologic test for syphilis. A card was devised which enumerated a series of steps which would guide and assist the physician in studying the problem of serologically reactive test reports.

Other areas concerning an educational program in the schools, particularly through the curriculum and the parent-teachers association were discussed, but no concrete actions were taken in this area. The committee would like to recommend that further effort be made to develop a revision of the Delaware Code, section 702, as proposed in the April 4 minutes of the Committee's meeting as developed by Dr. Porter and Dr. Schetman, acting as a subcommittee of the Committee as a whole.

REPORTS OF DELEGATES AND LIAISON

(All reports were accepted as published)

THE A. M. A. HOUSE OF DELEGATES

H. Thomas McGuire, M.D., *Delegate*

The hundred and fifteenth Annual Convention of the American Medical Association was held in Chicago, June 26-30, 1966. This event was on the eve of the implementation of Medicare, legislation the association had opposed vigorously.

The general tenor of the meeting of the policy-making body—the House of Delegates—was expressed by the Board of Trustees in its report to the House. The report reads in part as follows:

During the past year many individuals have represented the AMA and the physicians of the United States by meeting frequently with officials of the department of HEW. This degree of cooperation on our part should be viewed as a recognition by responsible citizens of an obligation to obey the law of the land, including this law with which we disagree. Our specific purposes have been to provide expert assistance to the Government so that this law could be implemented in a manner most helpful to the beneficiaries while disturbing the practice of medicine to the minimum degree. Despite our best efforts, it is apparent that serious problems are inevitable in connection with the implementation of this law, and we trust that the physicians and the public

will place the blame for such deficiencies squarely where they belong — on the Federal Government.

The Association has continued productive cooperation with the Federal Government in implementing Medicare. Despite this, there is an underlying apprehension that the medical profession will be held responsible for the program's failures.

This apprehension was demonstrated by considerable debate and the Delegates' endorsement of the direct billing method rather than the assignment procedure for payment of services to beneficiaries of Medicare. It is noteworthy that physicians are specifically permitted, under the law, to select either method.

Other actions by the house included: endorsement of a resolution to the effect that since separate billing by a hospital-based physician is "a preferred ethical practice, it shall be deemed unethical for a physician to displace a hospital-based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing."

The House also approved the recommendation that deviations from the principle that a physician may participate in the ownership of a pharmacy or regularly dispense drugs, remedies or appliances provided it is in the best interest of the patient be resolved by local or state medical societies. (In 1963, the House had stressed the point that "in the best interest of his patient" does not authorize a physician to dispense solely for his convenience or for the purpose of supplementing his income.)

A resolution directed the Council on Constitution and Bylaws to prepare such changes in the Constitution and Bylaws "as may be necessary to permit the Judicial Council to receive and act upon appeals filed by applicants who allege that they have been unfairly denied membership in local and/or a state medical society."

The association was urged to take the leadership in the solution of the health manpower shortage.

The abuse of LSD and other non-narcotic drugs was condemned. It was pointed out that the illicit use of LSD is subverting and vitiating important and necessary valid experimental studies, and it has recommended that the manufacture and distribution of LSD be continued as needed under strict control.

An increase in dues from \$45 to \$70, effective January 1, 1967, was voted.

The A.M.A. Volunteer Physicians for Vietnam program was strongly endorsed, and a recommendation that the Association organize and administer a program of American Assistance in Medical Education in South Vietnam supported by the United States Agency for International Development was approved.

Dr. Milford O. Rouse, of Dallas, Texas, was named president-elect.

REPORT OF THE REPRESENTATIVE TO THE ACADEMY OF MEDICINE

Norman L. Cannon, M.D., *Liaison*

As your representative to the Academy of Medicine this past year, I have attended the meetings of the Executive Committee and have kept abreast of the activities of the Academy. Of particular interest this year is that the Academy has purchased the three lots adjacent to the Academy on Lovering Avenue which include a duplex house and a vacant lot. These will be torn down and made into a parking lot. This is the beginning of a property procurement program which eventually, we hope, will enable the Academy to acquire all the properties in the block and provide much more adequate parking facilities for meetings. In the second place a post-graduate course in Practical Allergy was offered. Thirdly, the Academy is publishing a monthly calendar of medical meetings and is planning to coordinate, if acceptable, all medical meetings in the Wilmington area under the auspices of the Academy. The Academy again co-sponsored the Delaware Science Fair and will continue to do so. The Academy has begun to gather statistical data prepared by the Community Services Council for a study on rural health care in Delaware.

Also through the financial aid plan to students in medical and dental schools, \$16,400 was loaned to students. The total disbursements since the inception of this plan are now over \$70,000. Finally, at the annual meeting this year a new concept was inaugurated. The dinner was followed by a speaker of prominence, this year, Dr. Seymour Kety from the National Institute of Health. Most favorable acceptance was received from the membership, both professional and lay, to this new idea. A similar program is planned for 1967.

In summary, the Academy is expanding its activities and finding new ways to be of service to both the medical profession and the community.

DELAWARE DIVISION OF THE AMERICAN CANCER SOCIETY

Ossar N. Stern, M.D., *Liaison*

A report of the American Cancer Society, Delaware Division for the period September 1, 1965 to August 31, 1966.

Professional Education and Training

Medical Affairs Literature

CA-Journal for Clinicians—subscription to all physicians, schools of nursing, Visiting Nurse Association, hospital staff rooms and resident physicians in New Castle County.

CANCER NEWS—To all hospital libraries and Academy of Medicine Books and Publications in amount of \$234; to Delaware Academy of Medicine Literature supplied for Annual Meeting of Practical Nurses, 410 pcs; 85 kits containing 3,500 pcs. of literature prepared for nurses' refresher courses; to Nursing Home Operators'

Conference. Nurses' Reference Manual prepared by Memorial Hospital, N.Y. presented to Visiting Nurse Association, Nursing School of Wilmington and Dept. of Nursing, University of Delaware. 12 copies of the Proceedings of the 5th National Cancer Conference distributed to hospital medical libraries, to State Board of Health and to Academy of Medicine Library.

7,608 pieces of medical affairs literature distributed to dentists, nurses, physicians and nursing students.

8,354 pieces of public education literature distributed by VNA, through physicians' offices, through dental offices and at student nurses' convention.

Visiting Lecturer

Dr. John Durant, Director, Medical Neoplasm Clinic, Temple University Hospital, addressed the Combined Tumor Clinic of the Wilmington Medical Center.

Seminars

Two follow-up Oral Cytology programs were held for dentists, September 22 and March 30. Co-sponsored by Delaware State Dental Society, State Board of Health and ACS. Thomas A. McFall, D.D.S. presented the first program and James C. Baker, D.D.S. the second. Dr. McFall is Associate Professor of Oral Medicine at the University of Pennsylvania. Dentists received instruction in the technique of obtaining oral cytology smears and cytology kits were distributed to them.

Student practical nurses attended two sessions at Academy to learn of Society's services and programs. J. A. Arminio, M.D. addressed the group in December and O. N. Stern, M.D. was the guest lecturer in April.

Sponsored attendance of one resident physician to Symposium on Hodgkin's Disease held in New York in November. Sponsored visit to Memorial Hospital in New York for 2 resident physicians and delegates to attend ACS 1966 Scientific Session San Francisco, both in May.

Scholarships

\$3,000 scholarship grant sent to University of Delaware for eight undergraduate awards. 1 cancer nursing scholarship awarded to Kathryn Johnson, R. N., Supervisor from Visiting Nurse Association for 3-week course held at Memorial Hospital and New York University—\$400.

Film Showings

39 New Castle County
16 Sussex County

Displays and Exhibits

Display on Breast Cancer for Annual Meeting of Academy of General Practice, Dec.

Display on breast and uterine cancer for convention of Delaware Student Nurses Association in May.

Display on oral cancer for Annual Meeting of Dental Society in June.

Display for OB-GYN Conference at Academy of Medicine in June.

Speakers Bureau

21 New Castle County physicians filled 29 speaking dates

2 Sussex County physicians filled 2 speaking dates.

2 Kent County physicians filled 3 speaking dates.

Special Project

\$5,000 contributed to National toward the production of a proposed film "Essentials of a Cancer Detection Examination in the Doctor's Office".

Grants-in-aid

Renewal of grant for infusion study at Wilmington Medical Center, Robert W. Frelick, M.D., chief investigator.

Public Health Education Committee

Business & Industry — 40 companies had cancer education programs for employees — total 7 film showings; 14,952 pcs. literature distributed and 155 posters, 2 displays placed and one physician filled two speaking dates; 164 business firms in Wilmington informed of our programs and 13 firms received kits of material.

Club & Organizations — 26 programs, 18 film showings, 3 filmstrip presentations, 4,913 pcs. literature distributed; 13,601 church bulletins distributed by churches.

Neighborhoods — 3 programs, 6 film showings, 8,143 pcs. literature distributed to patients at Planned Parenthood Clinics, by Welcome Wagon, thru drugstores, etc.

Schools & Colleges — 168 general cancer film showings; approximate audience, 6,750; 4,519 pcs. literature distributed, 126 individual requests for literature, 62 Biology lab manuals distributed to high schools in state; 3 displays placed at Delaware State Education Association meeting and PTA convention.

Public Information Committee

Radio — Mrs. Cann's "Women in the News" program (Station WDEL) featured the Society in two series of programs; 2 physicians were guest speakers on two additional programs; spot announcements carried by 9 stations during Crusade, 22 radio kits distributed to stations.

TV Programs — Dr. John Jenny, Chairman of the New Castle County Schools & Colleges Committee and representative on the Interagency Council from Wilmington Public Schools was featured on two fifteen minute programs over WHYY-TV. Cigarette labeling was the subject of the programs.

Displays & Exhibits — Society had total of 29 public information displays and exhibits.

Crusade Literature — 114,500 pieces of literature distributed.

Interagency Council on Smoking and Health Film Showings

New Castle County — 385 film showings; total audience 15,216.

Kent County Unit — 70 film showings; total audience 3,361.

Sussex County Unit — 39 film showings; total audience 1,717.

Materials Distributed to Schools

Teachers' Reference Material 662 pcs.; Displays 14; Student Pamphlets 46,101 pcs.; Filmstrips 134*; Posters 530.

Programs — Sponsored speaker for Health & Physical Education Section, DSEA.

University of Delaware — Provided two speakers for smoking and health program; played 6 exhibits on rotating basis in residence halls; physician speakers addressed Health & Physical Education Methods' classes of future teachers on smoking and health topic.

450 supplements to Teachers' Guide on Smoking and Health distributed to Health and Physical Education instructors throughout the state.

An assembly program featuring a panel discussion on smoking and health was presented for entire student body at H. Fletcher Brown Technical High School.

*Copies of a new filmstrip "Cigarettes and Health" designed for teacher education have been placed in schools throughout the state.

Display on Smoking and Health at Delaware State Fair in Harrington; 4,491 pcs. literature distributed.

State Board of Health Report

(July 1, 1965 — July 1, 1966)

48 film showings of ACS films on permanent loan; 4 filmstrip showings;

1,200 pcs. literature and 107 posters distributed.

New film "Sense in the Sun" and filmstrip "Cigarettes and Health" placed on permanent loan.

Sponsored radio program on cancer in April "Healthy Harrison" show.

Patient Service

	New Castle	Kent	Sussex	Total
New applications	160	18	19	197
Applications Approved	145	18	19	182
Total patients assisted	210	26	30	266
Drugs supplied	78	11	15	104
Aid with hospital bills	5	6	4	15
Homemaker service	7	—	—	7
Transportation	7	7	5	19
*Gift & Loan closet	67	18	7	92
Dressings patients	58	12	10	80
**Visiting Nurse Association	69	—	—	69
Home Care (Del. Div.)	10	—	—	10
Transferred	—	—	—	—
Room and board while receiving treatment	1	—	2	3

*Colostomy, ileostomy, hospital room equipment, etc.

**Supported by \$6,000 grant annually to VNA.

	Dressings	Bedpans	Gowns
New Castle Co. distributed	53,927	3,487	100
Kent Co. distributed	19,576	264	—
Sussex Co. distributed	12,458	50	—
TOTAL	85,961	3,801	100

Community Service

1. Purchased info-dex cancer registry for St. Francis Hospital and underwriting registrar's salary.
2. Purchased therapeutic circulator for Delmarva Rehabilitation Center, Georgetown (an Easter Seal facility).
3. Contributed toward purchase of second therapeutic circulator for Delaware Curative Workshop.
4. Co-sponsoring with Delaware Tuberculosis with Health Society, a Homemaker Service for Central Delaware.
5. Purchasing equipment for use in treatment of cancer patients at Nanticoke Hospital.
6. A grant of \$3,000 to help setup central cancer registry for Wilmington Medical Center.

THE DELAWARE HEART ASSOCIATION

Lemuel C. McGee, M.D., *Liaison*

Last September's Auscultation Conference conducted by Doctors Weintraub and DeLeon, of Georgetown University Hospital brought two outstanding authorities on this subject to Delaware to aid in the continuing education of the physician. During the three days, approximately 100 Delaware physicians attended the sessions.

The Annual David Flett DuPont Memorial Lecture to the new Castle County Medical Society presented Dr. Charles A. Hufnagel one of our country's outstanding cardiac surgery pioneers.

The Annual David Flett DuPont Memorial Lecture to the New Castle County Medical Society presented Dr. Charles A. Hufnagel one of our country's outstanding cardiac surgery pioneers.

In cooperation with the State Board of Health and the State Medical Society a series of semi-monthly lectures was presented to the medical staff of the Nanticoke Memorial Hospital.

Dr. Arlie Mansberger discussed the subject of shock at the May meeting of the Kent County Medical Society.

Many other films and lectures were presented on the various phases of cardiovascular disease to both the medical and ancillary professions.

The *Heart Bulletin* and *Modern Concepts of Cardiovascular Disease*, two very informative educational brochures, are distributed regularly to all Delaware physicians who request them.

Dr. Harry Zinsser continues to come to Wilmington weekly to assist in providing the best possible care for Delaware's needy patients and to serve as both a consultant and teacher in the cardiovascular field.

A stroke education program has recently gotten underway and all physicians in the state will receive

mailings on this subject on a regular basis so that they will have a comprehensive selection of publications and articles available for their continuing education and to assist them in serving the CVA patient.

In cooperation with the State Board of Health and Beebe Hospital steps have been taken to reorganize the clinic at Beebe Hospital. A certified internist and cardiologist will conduct monthly sessions at the clinic.

Prophylactic medications are provided through seven hospital based clinics for Rheumatic Fever patients.

DELAWARE CHAPTER AMERICAN DIABETES ASSOCIATION

Herbert M. Baganz, M.D., *Liaison*

The American Diabetes Association continues to be active in Delaware principally through the Delaware Division which has active professional and lay members. The American Diabetes Association during this year has started plans to become a national health agency and have the membership increased to include other than professional members. Direct participation in this change has been by Dr. Lewis B. Flinn, Governor for Delaware of the American Diabetes Association, by myself and a lay member.

The Delaware Diabetes Association in cooperation with the national diabetes detection week conducted a detection drive in November, 1965. This was additionally aided by the State Board of Health, using the Clinitron. A total of 1,665 venous blood sugars were analyzed and 155 were potentially positive which after followup diagnosed at least 7 new diabetics.

The State Board of Health continues to increase assistance and correlation of programs with the Delaware Diabetes Association.

A *Mothers of Diabetic Children* group met four times during the year. Six camperships have been sponsored by the Delaware Diabetes Association. The meetings have had a formal physician presentation and a discussion period.

Professional and Lay educational meetings have been held during the year including: Dr. George Cahill, Assistant Professor of Medicine at Harvard Medical School; Dr. Arthur Krosnick from the New Jersey Department of Health and a workshop session with local physicians in attendance. The active membership in the Delaware Diabetes Association is now 287 members.

DELAWARE TUBERCULOSIS AND HEALTH SOCIETY

Gerald A. Beatty, M.D., *Liaison*

Statistics obtained from the Department of Vital Statistics of the Delaware State Board of Health indicate that up to August 1966 there has been an increase in new tuberculosis cases diagnosed in comparison with the same period in 1965. At last count 576 residents were receiving treatment in the hospital or at home as compared with 496 in 1965.

The mobile unit teams of the Society and the State Board of Health continue to lead the attack on the case detection front. Approximately 75,000 PFX x-rays are taken each year by the mobile units and at the Society. There is an increased emphasis being placed on tuberculin testing the pre-school child. The annual tuberculin testing program of the first grade children in the City of Wilmington has proven its worth. Starting in September 1963, this type testing is being done statewide on a cooperative basis with the private physician, the Department of Public Instruction, State Board of Health and the Society. The Society furnishes without cost the tuberculin test to the schools and also to the private physicians. This program includes pre-school and retesting of previously negative reactors being done in seventh grade.

The study of the 5-year inactive cases is being continued. This involves the United States Public Health Service, the Delaware State Board of Health and the Delaware Tuberculosis and Health Society. One immediate result of this project is in having all tuberculosis laboratory work processed at the E. P. Bissell Hospital.

Research Study

The research program of 1965 in which a comparative Study of the Tuberculin Tine Test and the Mantoux Test has been completed. A preliminary report was presented at the National Tuberculosis Association's annual meeting in San Francisco by Dr. Affronti. A digest of the report has been prepared for the Medical Journal, the State Board of Health edition.

In line with the interest of the Society in respiratory diseases, support is being given to the Pleural-Pneumonia-like Organism Laboratory with the Wilmington Medical Center, Delaware Division. This is supervised by William J. Holloway, M.D.

For their seventh annual lecture, the Society will be a co-sponsor with the Delaware Diabetes Association and the Delaware Academy of Medicine in presenting Dr. Rachmiel Levine.

The Society continues to evaluate the effect of air pollution on the general health of the community. The committee of the Medical Society of Delaware and the Society are cooperating in maintaining current accurate sources of research material on the subject.

The Society is increasing its work in the respiratory disease area through cooperation with the Pulmonary Function Laboratory at the Wilmington Medical Center, Delaware Division. The treatment center at the Emily P. Bissell Hospital is receiving attention and support by the Society.

In line with the increased attention to the respiratory disease program, physicians are now receiving special designed information regarding the development and research in this area. The Conference on Smoking and Health held for high school students is another step in prevention of respiratory diseases.

This Conference was jointly sponsored by the American Cancer Society, Delaware Division and the Delaware Tuberculosis and Health Society.

The Society's activities include case detection nursing care (with the Wilmington Visiting Nurse Association), rehabilitation, nurses scholarships at the University of Delaware, research in pulmonary function, "Drug Resistant Tuberculosis" by Dr. William Harris, Professor of Medicine, Women's Medical College in Philadelphia.

MENTAL HEALTH ASSOCIATION

Herman J. Bennett, M.D., *Liaison*

The report of the Mental Health Planning Project is a report to the people of Delaware, from the people of Delaware. Essentially it is a call for action which places on the Department of Mental Health the responsibility to assume a leadership role in helping to develop improved state wide community-based services. It calls upon the state, the officials in government the elected representatives, public and private agencies, community general hospitals and all Delawareans to support and encourage progressive programs of treatment and care.

The Report Rings Out a Message Loud and Clear

... It tells the State Department of Mental Health to develop diversified mental health services of a quality which our people have come to expect from the medical profession.

... It wants the service to be provided according to the specific need of the individual.

... It asks the Governor to support a strong state mental health program through establishing a budget which will reflect outstanding programs in treatment, prevention, rehabilitation, training, and research.

... It requests the legislature to appropriate the necessary funds to support the Governor's budget.

... It calls out to the universities to bring into their teacher training curricula subject material which allows for a greater understanding of the problems of emotionally ill and mentally retarded children.

... It calls for the university departments concerned with the behavioral sciences to expand their programs and to train people for service.

... It calls upon the medical profession to concern itself more actively with psychiatric illness and to accept a greater share of responsibility for providing services to the mentally ill and mentally retarded.

... It calls upon the general hospitals to establish psychiatric services as part of a network of general medical and surgical services.

... It calls upon health insurance companies and health insurance programs to expand their coverage to include mental illness.

... It calls upon all service agencies and groups, courts, clergy, physicians, attorneys, teachers and police officers to pay attention to the person asking for help and to render emotional first-aid when possible.

...It calls for the elimination of discriminatory public welfare laws which treat individuals with mental illness differently than those with other illnesses.

...It calls upon the citizenry to open its heart to those who need help through participating in volunteer services and family care homes.

The Department of Mental Health was created by the Legislature in May 1964. Since then, there have been significant local advances in mental health which have been solid rather than spectacular. During this time there has been substantial support, by the Governor's office and the Legislature, of the program. A summary of the activities of the Department of Mental Health and anticipated developments is attached.

The Department of Mental Health of the American Medical Association advises that the MHA Board of Trustees has not approved of regional AMA mental health congress. The AMA, however, continues to encourage state and local medical societies to lead and guide developing mental health programs and activities.

The MHA of Delaware will continue to operate its Information and Referral Service. This is a resource for all physicians who have patients who need assistance and guidance in the area of the psychiatric illnesses. A call to the Association (656-8380) for information can assist you in guiding your patient to the appropriate resource for help.

Madison House a Rehabilitative residence for ex-psychiatric patients is in its tenth month of operation. In that time eleven ex-patients have used it as a stepping stone back into the community and back to productive living.

Jefferson Pre-school Center, a therapeutic nursery school for emotionally disturbed children will open in September after a summer recess. Under the general supervision of Henry Stroud, M.D., the MHA plans to expand the enrollment this year from four children to five. This is a pilot and demonstration project and it is hoped that the experiences learned from this project will help to guide the Department of Mental Health when it opens its children's psychiatric unit at Fernhook sometime in 1967-1968.

CHILD DIAGNOSTIC AND DEVELOPMENT COMMITTEE

Henry H. Stroud, M.D., *Liaison*

The Child Diagnostic and Development Center of Delaware, Inc., whose establishment was in part financed by the Medical Society of Delaware, has been in continuous operation since our first Annual Report of September 1965. At the time of this report, a total of 232 patients have been seen for complete evaluation and 90 have returned for follow-up examinations. As time has passed, there has been an increasing number of referrals from private physicians, clinics, service agencies, and schools. At the present time we have a waiting list of two to

three months before new referrals can be seen for evaluation.

The purpose of the Child Diagnostic and Development Center and its mode of operation were explained in last year's report and will not be repeated. The number of persons on the staff has remained the same, but there has been a recent change in social workers.

Financing has been accomplished to date largely through contributions from private agencies, although about 10 per cent of the budget is derived through private fees and fees for services rendered State Board of Health patients. An application was made for membership in the Community Fund of Northern Delaware, but acceptance was denied in April 1966 because the Center had not developed a broad based support throughout the community since our contributions have been large sums from a relatively few agencies and individuals. At the present time an application is being made to the Children's Bureau of the Department of Health, Education, and Welfare to determine whether Federal funds will be available for support of this agency. We do know that in many communities throughout the states, the Childrens Bureau does support clinics similar to ours.

I believe the foregoing data covers all the salient points needed for an annual report.

REPORT OF THE COMMITTEE ON NOMINATIONS—1966

II. Thomas McGuire, M.D., *Chairman*

Your Committee on Nominations has met and considered positions to be filled for the year October, 1966 through October, 1967. We respectfully submit the following nominations:

Vice-President—Emerson Y. Gledhill, M.D.—
Wilmington

Secretary—Joseph W. Abbiss, M.D.—Wilmington

Treasurer—Lawrence Katzenstein, M.D.—Wilmington

Representative to the Delaware Academy of Medicine—Norman L. Cannon, M.D.—Wilmington

Committee on Program—R. L. Meckelnburg, M.D.—
Chairman, Wilmington

Otakar J. Pollak, M.D.—Dover; Arthur Zimmerman,
M.D.—Dover; Richard Tobin, M.D.—Seaford.

Committee on Publications—Robert B. Flinn, M.D.,
—Chairman, Wilmington

Davis G. Durham, M.D.—Wilmington; Joseph W.
Abbiss, M.D.—Wilmington.

Committee on Public Laws—W. O. LaMotte, Jr.,
M.D.—Chairman, Wilmington.

Rhoslyn J. Bishoff, M.D.—Dover; Christopher R.
Donoho, M.D.—Newark; James Marvil, M.D.—
Laurel; William J. Vandervort, M.D.—Wilmington;
Arthur F. Zimmerman, M.D.—Dover; Allston
J. Morris, M.D.—Wilmington.

Committee on Budget—Lawrence Katzenstein, M.D.

—Chairman, Wilmington

Charles Allen, M.D.—Dover; A. E. Bacon, M.D.—Wilmington; James Beebe, Jr., M.D.—Lewes; Charles Walker, M.D.—Wilmington.

Members of the Board of Group Hospital Service, Inc.—

Conley L. Edward, M.D.—Wilmington; William Cooper, M.D.—Seaford; Norman Jones, M.D.—Dover; H. Thomas McGuire, M.D.—New Castle; K. S. Russell, M.D.—Wilmington; A. H. Seeger, M.D.—Wilmington.

Board of Medical Examiners—

William J. Holloway, M.D., Norman L. Cannon, M.D., Arthur F. Zimmerman, M.D., Joseph W. Abbiss, M.D., Leslie W Whitney, M.D., John W. Alden, Jr., M.D., Leonard P Lang, M.D., David A. Levitsky, M.D., Harry Taylor, M.D., John W. Lynch, M.D.

RESOLUTIONS

RESOLUTION NO. 1

WHEREAS, the Local Boards of Education now employ over one hundred thirty (130) Nurses to serve in the Public Schools; and

WHEREAS, this large group of professional staff works without adequate health supervision, resulting in the individual school nurse functioning independently, even within a given district, with little coordination or guidance as to program objectives and goals; and

WHEREAS, the Delaware Nurses Association has officially supported the creation of a School Nurse Supervisor for the State; and

WHEREAS, it is believed that a School Nurse Supervisor would best function under adequate and competent Medical Supervision; and

WHEREAS, the State Board of Health has acquired many years of experience in the field of School Health, as it relates to Public Health and has Medical Personnel qualified to give proper direction to a Nurse filling such a position; and

WHEREAS, the health of the school-age child is a concern not only to the school authorities, but to the Board of Health as well, and realizing that the programs of both agencies should be well correlated to assure the community of an effective, over-all public health program, as it relates to the school-age child; therefore, be it

RESOLVED, That this Society recommends that the State Board of Health secure the necessary budgetary appropriation from the State Legislature to create a position of School Nurse Consultant-Coordinator, whose function it would be to coordinate the School Health Nursing Program in the State.

Report of the Reference Committee

Mr. Chairman: Resolution No. 1. This proposes that the post of School Nurse Supervisor be established by the State within the State Board of Health. The Reference Committee noted that at the present

time, school nurses operate without any system of overall guidance and that some form of guidance would be welcomed by them and would add to the effectiveness of the service.

Mr. Chairman: The Committee recommends the adoption of this Resolution.

The resolution was adopted.

RESOLUTION NO. 2

WHEREAS, hearings have been conducted in the Congress and Federal Legislation has been created in the 89th Congress to make it illegal for medical doctors to dispense for "profit" that which they prescribe, and

WHEREAS, while this legislation has failed to become law in this congress, it will no doubt be brought up again in the next congress, and

WHEREAS, efforts were made at the annual meeting of the American Medical Association House of Delegates in June, 1966, to strengthen medicine's arm in keeping its own house clean in this regard, and

WHEREAS, the privilege of dispensing that which he prescribes should always be preserved for the individual physician as he determines to the best interest of his patient, and

WHEREAS, it should, however, be the responsibility of medicine to see that this precept is indeed carried out and not abused.

THEREFORE, be it resolved that the Medical Society of Delaware be on record as supporting these principles, including the development of mechanisms on a local level for seeing that this ethic is carried out to the best interest of the patient and not primarily for the pecuniary remuneration of the physicians, and, be it therefore further resolved that should efforts be made at subsequent annual meetings or clinical meetings of the House of Delegates of the American Medical Association to put more strength on a national level into the support of this principle, the delegate to the House of Delegates of the American Medical Association of the Medical Society of Delaware be instructed to support and indeed lead in the development of such further strengthening of principles.

Report of the Reference Committee

Mr. Chairman: Resolution No. 2. The Committee has considered this Resolution and feels it serves to emphasize for all to see, the intent of this Society to maintain the highest ethical standards on the part of its membership, and to support this principle on a national level.

Mr. Chairman: The Committee recommends the adoption of this Resolution.

The resolution was adopted.

RESOLUTION NO. 3

WHEREAS, the Medical Society of Delaware has been cooperating with other disciplines in the com-

Report of the Reference Committee

Mr. Chairman: Resolution No. 3. This proposes that the Medical Society of Delaware go on record as approving the proposed regulations in this State concerning Title XIX as part of Public Law 8997. The Committee notes that the proposed regulations in contradistinction to those of some other States are reasonable and fit into the concepts which have been established by the Medical profession in this State.

Mr. Chairman: The Committee recommends the adoption of this Resolution.

The resolution was adopted.

In recognition of the members of the Society who were lost through death during the past year, the assembly arose for a moment of silence as the names were read:

In Memorium

FRANK A. JONES	THOMAS F. FELTZ
WILLIAM A. BYRNE	JUNIUS A. GILES
DEMETER SKRYPEC	

The House of Delegates then established Wilmington as the site of the 1967 Annual Meeting. Whereupon, at 5:45 o'clock P.M., September 25, 1966, the 177th meeting was adjourned.

The complete report of the Proceedings of the House of Delegates is on file in the Medical Society office and is available to members for reference.

CLINICAL NOTICES AND MEETINGS

**PG Course
Hahnemann**

Current Postgraduate Education Courses sponsored by Department of Medicine, Hahnemann Medical College are:

Bedside Diagnosis—Part IV, January 11-13, 1967

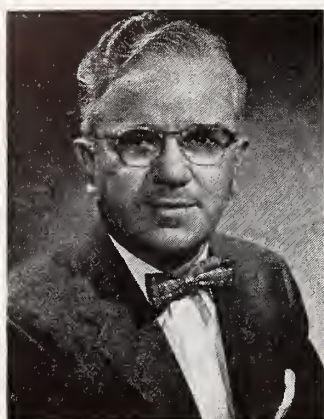
General Internal Medicine will continue each Wednesday, 1-4 P.M., through March 27, 1967.

**American College
Of Surgeons**

Annual Sectional Meeting of the American College of Surgeons will be held in New York, Feb. 27-Mar. 2. Hotel headquarters: for doctors—The Americana; for nurses—The Hilton. Nurses and Fellows of the College pay no registration fee; non-Fellows pay \$25. Forms are available from Mr. T. E. McGinnis, American College of Surgeons, 55 E. Erie Street, Chicago, Ill. 60611.

**DAMA News Notes
December Activities**

The American Association of Medical Assistants, a national professional organization of 12,500 physicians' office employees, lists as a major project the Certification Program for medical assistants. The Delaware Division (DAMA) is welcoming new membrs. Mrs. Olwyn Hawkins, President, and Miss Eleanor Splan, from the Wilmington group, attended the Annual Convention in St. Louis recently. The New Castle County Chapter held a "Bosses Night" at the University and Whist Club, Wilmington, at which members of the New Castle County Medical Society were guests. A rummage sale was held to raise money for the Educational Fund of the chapter.



President's Page

THE WASSAIL BOWL

Implicit in the holiday season is the expression of conviviality, congeniality and good fellowship. Social gatherings, dances, dinners and cocktail parties are frequent occurrences. The use of alcohol in its various forms and potions is a socially acceptable and indeed desirable ingredient in these activities. This is not an indictment of these factors but simply a commentary noting the fact that alcohol plays a role in the conduct of our society.

This would therefore be an appropriate time to briefly comment on those individuals who use alcohol abnormally. Specifically, I am referring to the clinical entity called alcoholism. The problem of alcoholism has so many facets that the physician who wishes to gain a better insight into it is faced with a mass of information emanating from widely scattered sources and representing a multiplicity of approaches. In contrast to wide spread attitudes of the past, when alcoholism was considered primarily in moral and legal terms, authorities generally today agree that alcoholism is the unsolved problem of our time. There is a growing realization on the part of responsible and concerned people, that the problem of alcoholism in our country, despite prolonged efforts to cope with it, is far from solved or even ameliorated. For long, it has been calculated that five to seven per cent of the population are addicted to alcohol and ten per cent are dependent upon it. An increasing amount of material is to be observed in the current medical literature concerning alcoholism, which has now been properly put in its rightful category as a

major health problem. While there may be differences of opinion as to etiological factors and special approaches to treatment, there is more and more medical agreement that alcoholism is an illness and that alcoholics are sick people.

Speaking very generally, there have been several stages in the battle against alcohol addiction. The first stage was all simplicity: This man is drinking too much, and therefore he should stop drinking. He takes the pledge. Now it is up to him to keep it. The situation was plain. An excessive drinker had to will himself into sobriety. At the second stage, attention was increasingly directed, not to the fact of excessive drinking, but to the reason for it. Why does this man drink so much? What is tormenting him, so that he seeks relief and escape in the narcotic alcohol? Thus alcoholism has been seen as a personality disorder, a psychic disorientation and we are hearing about the addictive personality. There has, therefore, evolved a concentration on the psychiatrically oriented clinical approach to the treatment of alcoholics in the last few years.

Another approach has been the physical-chemical aspect and the somatic reception of alcohol in particular people. "Alcohol consumed by the average person passes through his body and does not leave an addictive 'hook.'" However, some people are not able to remove the toxic by-products from their system. The toxic residue causes a disturbance in the body, inducing anxiety, nervousness and thirst. These effects are alleviated

Continued on Page 388

Editorials

A REGIONAL DILEMMA

So much is said about the new Regional Programs for Heart Disease, Cancer, Stroke and the related diseases and yet nothing very positive seems to be happening in this region of the country. In October of 1965, Congress passed public law 89-239 authorizing 50 million dollars for grants for planning and feasibility studies for the first fiscal year ending June 30, 1966. Ninety million dollars was authorized for fiscal year ending June 30, 1967 and 200 million dollars for the fiscal year ending June 30, 1968. In some sections of the country, progress is being made, regional programs are underway or planning grants and feasibility studies are in progress. However, we have heard very little in our area.

There seems to be no strict criterion for what should constitute a region, but it is probable that in the heavily populated east that one or two million people will probably constitute a regional program. In the less populated western areas of the country, geography and medical facilities may define a region rather than population. It is clear however that state boundaries are not to be considered a geographical barrier and it is for this reason that the Delaware Valley area, with Philadelphia, parts of New Jersey and perhaps all of Delaware would seem to be one possible geographic region of approximately two million people.

This might be interpreted to mean that Philadelphia, with its five medical schools, would be the center and that other hospitals in this region would become satellite centers or affiliated hospitals.

So far we have been looking to Philadelphia

for leadership and it has not been forthcoming. This is not because the five schools are not interested. I believe it may be explained by the inherent difficulties in getting five medical schools to come to a common agreement. In order to have one mother institution that is responsible for all five medical schools, it has seemed reasonable to pick the University City Science Center (U.C.S.C.) for this purpose. The U.C.S.C. is an independent corporation owned collectively by the five medical schools and has been set-up to pool the resources of all schools in certain technical areas. This has been done elsewhere in the country and has worked well. Ideally the member universities should all be represented equally and the Center should be run democratically with everyone of the member organizations benefiting.

Unfortunately, the U.C.S.C. is not so democratically organized, since 51% of the shares are owned by the University of Pennsylvania. This fact alone may make it impossible for the five schools to come to an agreement allowing the U.C.S.C. to act as the controlling agency. It can be done and the U.C.S.C. is presently attempting to undertake this task. However, there are so many problems inherent in this type of organization with its one-sided ownership that it might seem appropriate for the State of Delaware to look elsewhere for leadership. Perhaps the State of Delaware for the present could constitute its own region. Certainly in the area of cancer it would be worth a try. The University City Science Center and the five medical schools in Philadelphia constitute an impressive array of talent but it may be unwise to expect them to come to an agreement in the near future.

by more of the sedative, alcohol, so the addicts continue to drink relentlessly." There are certain conclusions to be drawn from the physical-chemical view of alcoholism (which does not, of course, exclude the psychic factors).

First, the alcoholic is not to be blamed, nor should he blame himself, for his susceptibility. He is in no way responsible for the fact that his inner physical structure cannot "handle" alcohol. A man does not entertain guilt-feelings because he is bald or has flat feet or cannot abide cucumbers. The alcoholic may calmly absolve himself for his intolerance of drink.

Second, the potential or actual alcoholic must, as Alcoholics Anonymous has always contended, recognize himself for what he is. He must then live according to his true identity. He must be himself. Far from taking his problem out of the area of personal volition, the physical-chemical view demands of

the addicted drinker the monumental *acceptance* of the fact that he cannot drink.

Third, some kind of campaign ought to be launched in our affluent and comfortable society for the purpose of unglamorizing alcohol. Just as it is folly to blame a thing—in this case, alcohol—because people misuse that thing, so is it criminal nonsense to portray liquor as the elegant and enlarging nectar that improves every shining hour, marks the sophisticate—and cures the common cold. We must undeceive the alcoholic—and ourselves—about alcohol.

I have taken the liberty to use this page to briefly mention a few observations about this very significant medical, social entity in our society. The moral and ethical professional responsibility of the physician in this area of practice is obvious. It is my prayerful hope that we, in the profession, will recognize our obligation and meet our responsibility in this area.

H. Thomas Mc Guire

CLINICAL NOTICES AND MEETINGS

PG Medicine 17-Day Cruise

The Department of Postgraduate Medicine, Albany Medical College, is receiving reservations for their Eighth Medical Seminar Cruise, Jan. 6-23, 1967, aboard the Gripsholm, Swedish-American Line. A comprehensive program will cover subjects in internal medicine, cardiology, psychiatry, pediatrics, genetics, surgery, obstetrics, and gynecology. 24 Hours of AAGP Credit will be given.

AAGP Symposium

A Postgraduate Course in *Forensic Medicine: The Doctor and the Law* will be held Jan. 12-14, 1967, at the Mound Park Hospital, St. Petersburg, Fla. This is sponsored by Mound Park Hospital Foundation, Stetson University College of Law, the Florida Colleges of Law and Medicine and the AAGP. The fee is \$40; 18 accredited hours will be given by AAGP. The course is designed for better orientation to the modern concepts of medicolegal relationships, hazards and risks in and out of the courtroom.

American College Of Physicians

Current Concepts in Blood Diseases—Jan. 22-27, 1967, at Miami University School of Medicine. Meeting Place: Fountainebleau Hotel, 4441 Collins Avenue, Miami. *Newer Aspects of Experimental and Clinical Allergy*—Jan. 30-Feb. 3, 1967, at Harvard Medical School. Meeting Place: Sheraton-Boston Hotel. Fees: ACP members—\$60; non-members—\$100. For registration, write: Edward C. Rosenow, Jr., M.D., Executive Director, American College of Physicians, 4200 Pine Street, Phila., Pa. 19104.

Regional Meeting, Jan. 20-21, 1967 for internal medicine specialists in Ohio, Western Pennsylvania and W. Virginia at the West Virginia Medical Center, Morgantown.

In Brief

Speakers On "Doctor's House Call"

Speakers for January, 1967, on the Tuesday radio program, (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: Jan. 3: Charles S. Riegel, M.D., *Tranquilizers*; Jan. 10: Maurice Goleburn, M.D., *Weight Control*; Jan. 17: Howard D. Cohen, M.D., *Surgical Correction of Deafness*; Jan. 24: Rublee C. Soule, M.D., *Partnership Partners*; Jan. 31: Charles R. Green, Jr., M.D., *Sexual Education of Children*.

AEC News Releases

The Atomic Energy Commission is proposing to amend its regulations for licensing the medical use of radioisotopes in diagnostic procedures. The proposed amendment would divide the most common diagnostic uses of radioisotopes into two groups and would specify that an application for the use of a radioisotope within one of the groups may be considered by the Commission as an application for *all* the uses in the group if the applicant satisfies the licensing criteria for the group.

One group includes the use of radioisotopes for medical uptake, dilution and excretion studies. Included in this group are tests of thyroid, liver and kidney functions; fat absorption studies; and determination of volumes of certain body substances such as blood. The other group includes procedures and tests for localizing tumors.

Smallpox Vaccination Certificate

The recommendation of the Committee on International Quarantine amending the smallpox vaccination certificate—to indicate whether a freeze-dried or liquid vaccine was used and to include the origin and batch of smallpox vaccine—was adopted at a meeting of the World Health Assembly last year. The new certificate will come into force on January 1, 1967. To be valid for international travel, smallpox vaccinations performed after this date will have to be recorded on the new certificate. Certificates issued prior to this date shall continue to be valid for the period designated.

Physician Manpower

The AMA's Council on Medical Education report (*JAMA*—Nov. 21) shows: total enrollment is at a new high in U.S. medical schools. It tallies 32,835 total enrollment, up from last year's 32,428.

Which paper do y'read?

Datagrams, a release from the Association of American Medical Colleges, states, "For the first time in a four-year period, the number of applicants to U.S. medical colleges failed to show an increase over the previous year's total. Noteworthy at this time of great national interest in increasing the supply of physicians, is a decrease of 76 in the total first year enrollment for 1965-1966.

Reprints Available

Reprints of the proceedings of a Combined Clinical Staff Conference at the National NIH, published in the *Annals of Internal Medicine* (August, 1966) are now available to physicians on request. Write for copies by title, *False Neurochemical Transmitters*, to the Clinical Center Information Office, NIH, Room 1-N-248, Bethesda, Maryland 20014.

Radio Seminar Curriculum

Radio Seminars conducted by the Pennsylvania Hospital present the current program for the month. These are being held at the Wilmington Medical Center, Memorial Division, every Tuesday at 12:00 noon with lunch being served. The course is approved for 24 Credit Hours by the AAGP. Sydney Stat, M.D., is moderator.

January 10, 12: *Medicare Revisited*, Mr. Howard Newman, Associate Administrator, Pennsylvania Hospital.

January 17, 19: *Indications for Catheter*, John J. Murphy, M.D., Professor of Urology, School of Medicine, University of Pennsylvania.

January 24, 26: *Malabsorption Syndrome*, Franz Goldstein, M.D., Associate Professor of Medicine, Jefferson Medical College.

January 21: *Osteoarthritis*, Richard T. Smith, M.D., Physician to Pennsylvania Hospital.

Hospital Emergency Service

Emergency Department—A Handbook for the Medical Staff, is a new guide to be issued by the AMA later this fall. The Emergency Department is no longer what it was several years ago; a room reserved only for accident cases which required prompt first aid. A recent study found that 42% of cases treated today in the Emergency Department were not emergencies at all. This handbook will offer suggestions on improvements. Look for it.

The Month In Washington

The Artificial Heart

The National Institutes of Health is concentrating its efforts to support programs for development of auxiliary heart-pumping devices instead of a complete artificial heart. The decision to forego, for the present, a major program to build a complete artificial heart was made after determining that not enough fundamental information existed on just how the heart operates to make such a project feasible. Dr. Michael E. DeBakey is working toward development of a device that would allow the heart to rest long enough for it to recover its strength and resume its role in the body without assistance.

Obesity and Health

Obesity has become a major health problem in the United States and a special health hazard, according to the Public Health Service. Quoting a new PHS source book for health professionals, *Obesity and Health*, "Obese children and adolescents are a major reservoir for obesity in adult life as they are more likely to remain obese as adults and to have more difficulty in losing fat and maintaining fat loss than people who become obese as adults.

Children's Aspirin

No bottle of children's aspirin sold after July 1, 1967, will contain more than 36 tablets in a joint government-industry effort to reduce accidental overdose. Also agreed on was a limitation in the potency of children's aspirin. Some now range as high as 5 grains a tablet. The new limit will be 1¼ grains.

Alcoholism

The federal government has launched an extensive program to control and prevent alcoholism. A National Center has been established for the Prevention and Control of Alcoholism with an 18-member advisory committee. The objective, in brief, is to mobilize public and professional efforts on the scale necessary to overcome the blight of alcoholism.



Delaware Academy of General Practice

PSYCHIATRY IN MEDICAL PRACTICE

The Delaware Academy of General Practice and Jefferson Medical College announce their fourth annual seminar series in psychiatry. These sessions are planned for all physicians other than psychiatrists. In the past both general practitioners and specialists of varied interests have participated. Any physician who in his practice treats the whole person will find the seminars of great interest.

The format this year will be the same as before and will be strictly informal. Each week the psychiatrist moderator and the guest psychiatrist will meet around a conference table with coffee and doughnuts and after a very short preliminary discussion will spend two hours on clinical give-and-take.

Each session one of the participating physicians will bring in a patient with a problem who will be interviewed first by the guest psychiatrist, then by the group. After the patient leaves, the remainder of the time will be spent on an informal but thorough analysis

of the practical clinical impact of the patient's problems.

Because of the nature of these discussions, the groups will be kept small. Registration will be limited to twelve participants for a Wednesday series of eight weekly sessions, and twelve other participants for a similar Thursday series of eight weekly sessions. They will be held at the Wilmington General Division of the Wilmington Medical Center from two to four p.m., starting Wednesday, January 11, 1967 and Thursday, January 12, 1967. Because the National Institute of Mental Health is underwriting the major costs of the program, registration fee for each participant for the series will be only thirty-five dollars.

To reserve a place in either seminar series, write to Mrs. Anne E. Shane, Executive Secretary, Delaware Academy of General Practice, 1025 Lovering Avenue, Wilmington, Delaware 19806.

PROGRAM

3rd Floor Conference Room — old maternity building

Place: Wilmington General Division — Wilmington Medical Center

WEDNESDAY GROUP—Howard Field, M.D., moderator, 8 sessions beginning:

<i>Date</i>	<i>Speaker</i>	<i>Subject</i>
January 11	Abraham Freedman, M.D.	Anxiety
January 18	Doris Willig, M.D.	Childhood And Adolescence
January 25	John E. Mock, M.D.	Emergencies
February 1	to be announced	
February 8	Joseph Adlestein, M.D.	Alcoholism And Addiction
February 15	John Koltes, M.D.	Depression
February 22	Martin Goldberg, M.D.	Marriage And Sexual Problems
March 1	William O'Brien, M.D.	Psychotherapy

THURSDAY GROUP—Wallace B. Hussong, M.D., moderator, 8 sessions beginning:

<i>Date</i>	<i>Speaker</i>	<i>Subject</i>
January 12	John Koltes, M.D.	Anxiety
January 19	Martin Goldberg, M.D.	Marriage And Sexual Problems
January 26	Robert Joseph, M.D.	Use Of Hospitalization
February 2	Charles Schober, M.D.	Interviewing
February 9	William O'Brien, M.D.	Psychotherapy
February 16	Doris Willig, M.D.	Childhood And Adolescence
February 23	Joseph Adlestein, M.D.	Alcoholism And Addiction
March 2	Herbert Aaronson, M.D.	Tranquilizers And Antidepressants

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you will be
satisfied with
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- no down payment or security deposit
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The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society



THE HART BILL

An editorial which appeared in the New England Journal of Medicine was entitled *The Hart Bill—Superfluous Zeal*. The majority of the practitioners of pharmacy and medicine have expressed concern over such legislation and oppose its enactment. The article expresses the principle that medicine can resolve its own problems in this area of conflict and that government intervention only obscures the picture. It also quotes from the Principles of the Medical Ethics Committee of the American Medical Association and the last line of this quotation is of prime interest to our discussion—*“Drugs, remedies and appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient.”*

Delaware Pharmacists could not agree more strongly for an attitude that allows the professions of medicine and pharmacy to settle any difficulties that arise from the rendering of each service. Nor could we argue the point that physicians in certain locales be allowed to dispense medication to a patient when pharmaceutical services are not available. But has medicine moved to correct injustices to the patient in communities that offer proper pharmaceutical service?

When a physician finds it necessary to dispense some medications from his office, there are some guide lines to be adhered to. These are required by State and Federal statutes concerning the proper packaging and labeling.

It is in the best interests of our patients that *all* drugs dispensed be carefully labeled with instructions stating when and how the medication should be taken. It is also in the best interests of our patients to be *sure* that drugs are not dispensed through unqualified members of the office staff.

I am certain that the majority of medical practitioners do label medications properly. However, there are enough examples of poor handling of drugs in our communities in Delaware to make medicine take another hard look at the problem. Pharmacy and medicine were separated years ago to satisfy a growing need for better education and a better ability to serve the people. If we are to continue in these two areas, namely to educate physicians and pharmacists about each other's responsibilities and also to serve our communities, we must make an endeavor to change these practices.

The Hart Bill will probably not make the grade, but if medicine continues to do nothing to re-evaluate their position and insist upon a correction of these guide lines, government *will*, in the future.

Perhaps the bill exhibits superfluous zeal, but medicine should heed the warning that there are areas to be cleansed in order to maintain both professions in a dynamic position to better serve the people of our community.

David J. Krigstein

SQUIBB NOTES ON THERAPY



Breast-feeding and the "modern mother"

Despite a mild resurgence of interest in the importance of breast-feeding a few years ago, many women today do not choose to nurse their young. This is for a variety of reasons—social, economic, cultural and sometimes medical. In such cases the physician's task is to find the most suitable means of preventing lactation and easing the pain of breast engorgement.

The means of therapy

The value of hormone therapy for this indication is of course well established. Both androgen and estrogen are known to inhibit the production and secretion of the lactogenic hormone by the anterior pituitary. As estrogen levels decline sharply at parturition, lactogenesis is established. When androgen and estrogen are administered to the patient before the release of the lactogenic hormone lactation and breast engorgement are usually prevented.

The time of therapy

The time of administration of this combined medication is crucial; it must be given early enough to suppress the pituitary prolactin and last long enough to permit physiologic readjustment during the puerperium. Excellent results are most often seen when therapy is administered before the onset of the second stage of labor.

However, factors other than effectiveness must also be considered. The agent selected should not interfere in any way with parturition, subsequent uterine involution and the restoration of normal ovarian cyclic function. Furthermore, it should not cause rebound breast engorgement or other manifestations of hormonal imbalance.

A balanced formulation

Providing single-dose therapy for the prevention of lactation and breast engorgement, Deladumone OB is a potent androgen-estrogen combination with a prolonged action. The optimal balance of androgenic and estrogenic hormones achieved in this preparation minimizes the disadvantages inherent in single hormone therapy, such as rebound breast engorgement. Involution of the uterus and resumption of menstrual cycles are not affected.

As reported in a recent published study (Roser, D. M.: *Obstet. & Gynec.* 27:73, 1966), Deladumone OB provided good suppression of breast engorgement in 95.3% and suppression of lactation in 81.1% of 86 obstetrical patients. These results are in general agreement with those of many earlier investigations; in several studies this injectable androgen-estrogen combination proved to be superior to oral medication.

Dosage:

As a single injection of 2 cc. before the onset of the second stage of labor.

Contraindications:

Established or suspected mammary cancer or genital malignancy.

Precautions and Side Effects:

Certain patients may be unusually responsive to either estrogenic or androgenic therapy. In such individuals virilization, uterine bleeding or mastodynia may occur.

Supply:

Deladumone OB, providing 180 mg. testosterone enanthate and 8 mg. estradiol valerate per cc., is available in 2 cc. Unimatic® disposable syringes and in 2 cc. vials. Both preparations are dissolved in sesame oil, with 2% benzyl alcohol as a preservative. *Before use, consult product literature for full prescribing information.*

Deladumone® OB

Squibb Testosterone Enanthate (180 mg./cc.) and Estradiol Valerate (8 mg./cc.)

Single-dose injection for lactation inhibition

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Auxiliary Affairs

PROFILE OF OUR PRESIDENT

1966 - 1967

Mrs. John W. Howard was elected President of the Woman's Auxiliary to the Medical Society of Delaware at their 37th Annual Meeting held last October.

Known to her friends as Bea, she has been active in Auxiliary affairs for a number of years. Mrs. Howard is a past president of the New Castle County Medical Auxiliary having previously served as County Treasurer, a member of the Board of Directors of the State Society, and various other County Auxiliary Committee assignments.

Mrs. Howard moved to Wilmington, Delaware in 1944 when her husband was appointed Director of the Department of Pathology at the Delaware Hospital.

Her activities in the Auxiliary and community were soon apparent. Early interest in cub scouting occupied a considerable portion of her free time during her early Delaware years which was soon expanded to an active leadership later to expand and continue through Intermediate and Senior Scout activities.

Bea has always been an active church member and was early associated with the formation of the Concord Presbyterian Church with which she has always been active with numerous responsibilities in the Women's Association and as a member of the Pastoral Selection Committee. Early she assumed active teaching assignments in the Church School.

Her participation as a graduate nurse has been in association with the Delaware Red Cross and Auxiliary sponsored projects.



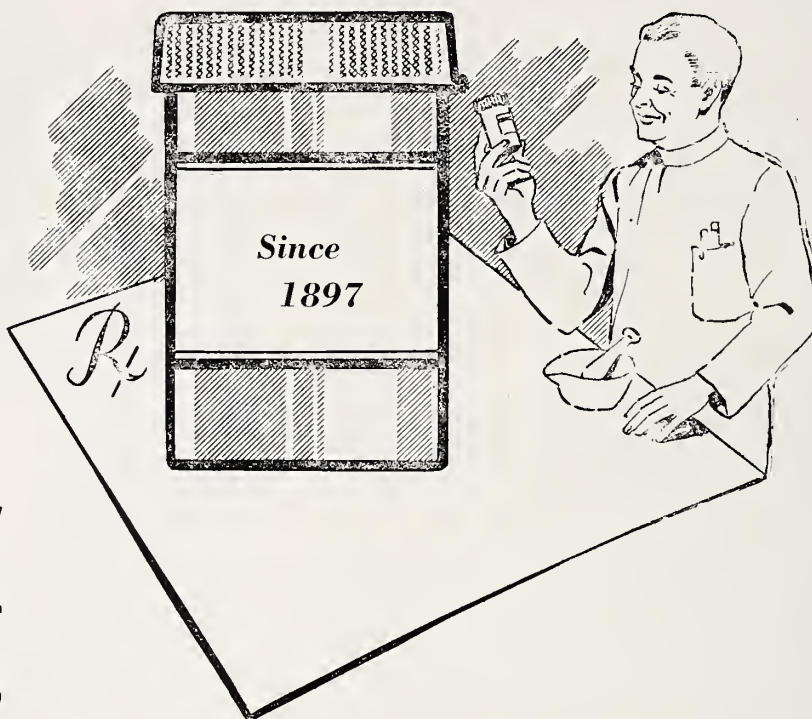
Mrs. John W. Howard

Mrs. Howard is a native of Pennsylvania and received her preliminary education in Altoona, Pennsylvania. From there she enrolled and graduated from the former Philadelphia Orthopedic Hospital Nursing School, now a part of the University of Pennsylvania Graduate School Hospital. Following graduation and Private Duty Nursing in the Philadelphia area she continued her nursing career at the Delaware County Hospital where she met her husband who was then a senior student at the University of Pennsylvania. They were married in 1937 and as a graduate nurse she complimented his residency training at Abington Memorial Hospital, Abington, Pa., as Assistant Night Supervisor in Obstetrics and the Receiving Department.

Bea is the mother of three children: Elizabeth, a graduate of LaSalle Junior College School of Nursing, Boston, Mass., who is married, pursuing her career of nursing and living in Concord, Mass., Wade, who is a recent graduate of the University of Delaware and Polli, who is currently attending the University of Delaware.

Limited leisure time is occupied with gardening, sewing, and travel when the opportunity permits.

As in past year, the Auxiliary is fortunate to have another dedicated and sincerely responsible officer to represent our members in local and national areas.



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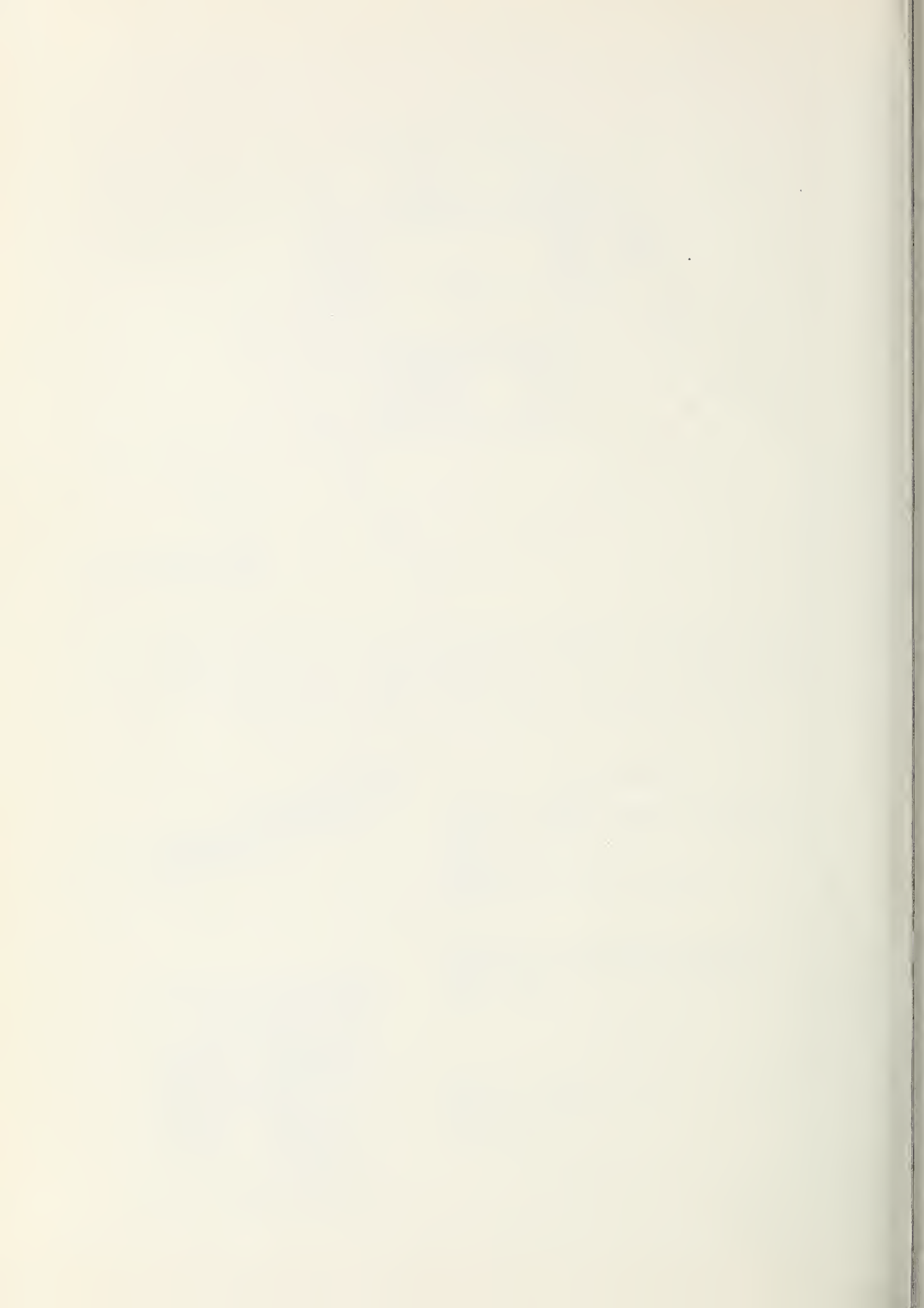
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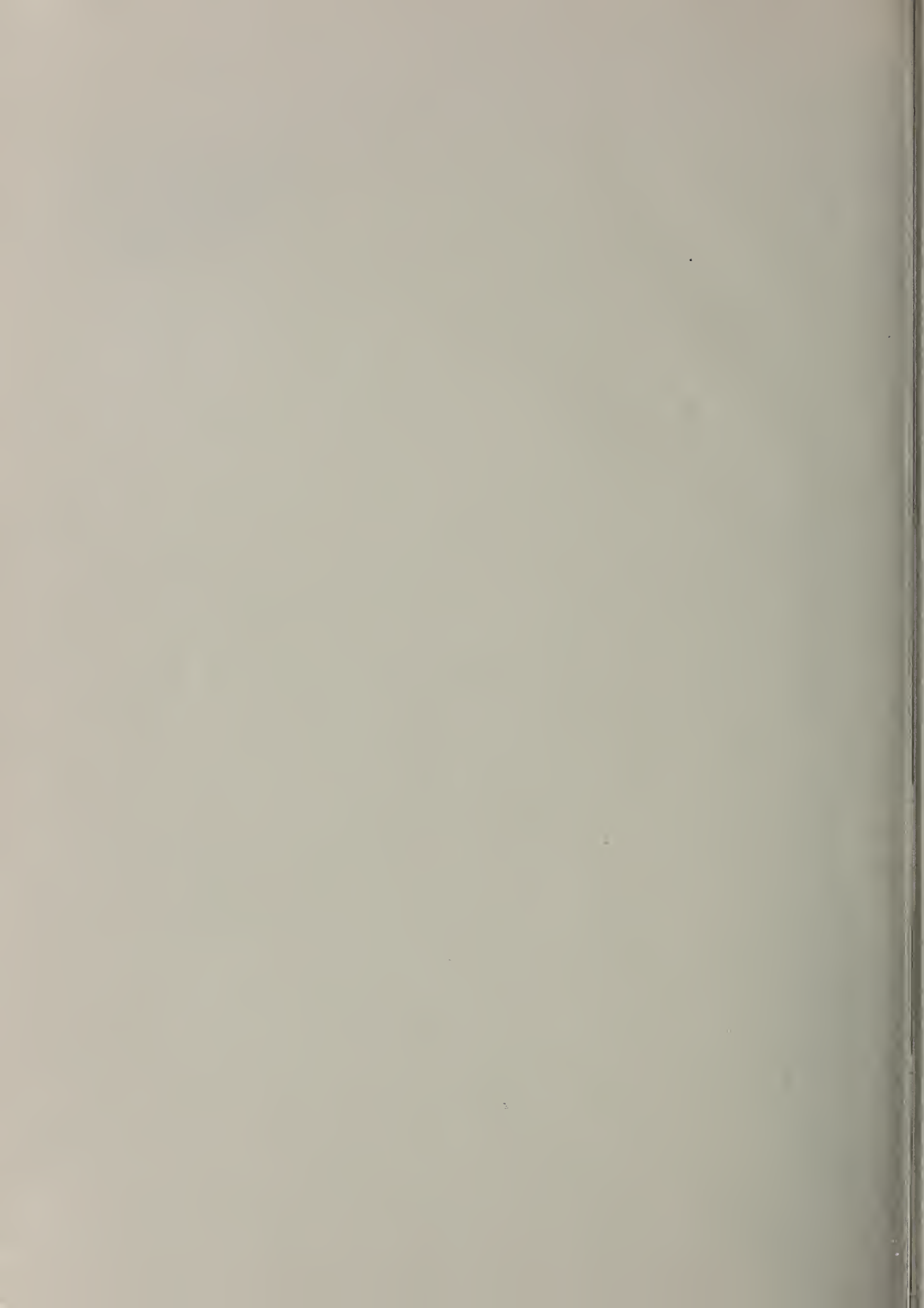
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